SUBSTANCE AND ALCOHOL USE PREVENTION IN LOW-INCOME HIGH SCHOOLS OF AUSTIN

Christina V. Nania

TC 660H
Plan II Honors Program
The University of Texas at Austin

May 11, 2017

_____

Dr. Yessenia Castro, PhD
School of Social Work
Supervising Professor

_____

Dr. Brad Love, PhD
Moody College of Communication
Second Reader

ABSTRACT

Author: Christina Nania

Title: Substance and Alcohol Use Prevention in Low-Income High Schools of Austin

Supervising Professors: Dr. Yessenia Castro, Dr. Brad Love

Substance and alcohol misuse continues to plague our nation in years of life lost and money expended. Substance and alcohol use initiation before the age of 18 has been found to be one of the most predictive factors of developing a substance or alcohol use disorder later in life. Adolescence is a critical time to intervene with primary prevention or early intervention efforts. While effective treatments are being developed for those already suffering from addiction, the best course of action is to give young people skills to prevent early substance and alcohol use. Starting in the mid-1900s, alcohol and substance use prevention programs began to be implemented in high schools. While success rates among different programs vary, the school environment is an effective environment to reach many adolescents.

This thesis reviewed the literature on substance and alcohol use prevalence among adolescents, as well as the outcomes of early use. Then a comparison was done between successful and unsuccessful programs to determine which program factors are more successful in preventing early substance and alcohol use initiation. Next, service providers from four different Austin-area high schools were interviewed. Qualitative data was collected on their perceptions of substance and alcohol use prevalence in their school, presence or absence of substance and alcohol use prevention programs in the curriculum, and perceptions of the resources and barriers to implementing these programs. Finally, the literature review and qualitative interview data were used to propose recommendations for the schools to implement programs that would be most effective for preventing substance and alcohol use initiation.

ACKNOWLEDGMENTS

I would like to thank my supervising professor, Dr. Castro, and my second reader, Dr. Love, for guiding me through this thesis process, and helping me create a meaningful product. In them, I found great mentors who inspired me to use my education for the betterment of my community. I would also like to thank Dr. Reddick for his indispensable help in the interview and data collection process. Thank you to the Plan II Honors Program for teaching me invaluable critical thinking skills, stimulating my intellectual curiosity, and giving me an opportunity to research a topic I am truly passionate about. Thank you to my parents, Jay Nania and Silvia Orengo-Nania, and my siblings, Jason Nania and Julia Nania, for inspiring me to keep learning every day and finding new ways to help others. Thank you to the life-long friends I have made here at UT. I would not have been able to do it without you!

TABLE OF CONTENTS

Introduction……6

Part I: Background and Literature Review……9

I. The Physical, Mental, and Societal Effects of Addiction Nationwide……..10

II. Review of Successful and Unsuccessful Alcohol and Substance Use Prevention Programs...15

III. Barriers to Prevention Research in Schools……25

IV. The Status of Substance and Alcohol Use Prevention in AISD……..31

Part II: Interviews and Qualitative Analysis……35

V. Purpose of this Study……36

VI. Methods ……..37

VII. Results……41

Part III: Recommendations……55

Recommendation 1: Greater focus on primary prevention…….……...56

Recommendation 2: Continued focus on "circle of support for students……..57

Recommendation 3: Consider universal curriculum to increase reach……..58

Recommendation 4: Further attention to assistance with meeting basic needs……...…….62

Recommendation 5: Parental outreach……..63

Recommendation 6: Increased attention to peer influence……..…….65

Recommendation 7: Thoughtful review of current distribution of resources……65

Summary and Conclusions……..……73

Tables……75

Appendices……78

References……..87

Biography……..97

Introduction

> "But here's the rub of addiction. By its nature, people afflicted are unable to do what, from the outside, appears to be a simple solution—don't drink. Don't use drugs. In exchange for that one small sacrifice, you will be given a gift that other terminally ill people would give anything for: life."
>
> —David Sheff, *Beautiful Boy: A Father's Journey Through His Son's Addiction*

Addiction is commonly misunderstood as a choice. Television shows and films often glamorize the moment when the alcoholic father decides to stop drinking and shows up for his family. They may also show scenes from a couple of AA meetings, and some sweet moments from where his family accepts his return. What the audience may not know is that his body has undergone serious physical and psychological changes that make this scenario rare at best.

These changes may have begun back in high school. He grew up in a single parent home. His mother held three jobs to try to support her six children. As the oldest, he stepped up to the plate and got a part-time job at night while he went to school during the day. He was frequently late for school, because he had to get his siblings ready for school. School staff, unaware of this situation, continually gave him detention for his tardiness. Detention interfered with his work schedule, which eventually ended up getting him fired. Stress from his familial and financial situation became a lot for a fifteen year-old to deal with.

After leaving detention one day, he ran into a friend who asked if he would like to take a load off. He and his friend go to a nearby park, and there is where he had his first beer. At the

end of his first can, he feels a slight buzz and much more relaxed than he has felt all week. For the next few weeks, he continued to meet up with his friend who would bring a couple of beers, and eventually a six pack when that wasn't enough to help them relax. He began looking forward to after school as a time for himself, a time to forget about his troubles.

Eventually the beer was not enough anymore. His stress was increased by his mother's disappointment in him for not keeping a job and taking care of his siblings. She recently received a phone call from school saying that he had missed the last couple of days. After an explosive argument, he left the house and met up with some new friends from after school. They sympathetically listened to him vent, and passed him a joint to try to take the edge off.

Fast-forward five years. He is now twenty. Life continued to throw curveballs his way, and he has experimented with all kinds of new drugs to try to cope. The one that seems to do the trick is OxyContin. He doesn't visit his family much anymore, because his mom kicked him out of the house when he came home high one night. Now the only certainty he knows is the warm euphoria he feels when he uses.

Fast-forward ten years. He is now thirty. After an overdose, he commits to getting clean for his wife and three-year old child. While she always hopes he might finally be able to stay sober, she doubts it. This is his third round in AA, with relapse on the horizon. As they look around the room, full of fellow addicts in recovery, they see an accountant, a stay-at-home mother, a surgeon, and a college student. All have led very different lives, but are united by their disease, their addiction. Each committed as strongly as they can to their sobriety. Each with a family, a loved one, or a concerned friend wishing for them to return. Each did not want this. They did not want to be enslaved by their substance. They just wanted to cope, a way out from

their stressful lives. Addiction only looks the same in that it is used by people to mask another problem.

Addiction becomes a disease of the body and of the mind. The physical and psychological dependence of this substance can almost feel like our polluted atmosphere. There is no way to live without it. But there is also no way to live with it.

This thesis will examine methods of substance and alcohol use prevention in Austin-area high schools. First, a review of the literature will determine which risk factors put people at a higher risk for initiated substance use during high school. Characteristics of programs that have successfully and unsuccessfully prevented the exacerbation of problem behaviors stemming from risk factors will also be examined. In order to gain an emic perspective, service providers from Austin-area high schools are interviewed about the perceived status of substance and alcohol use in their student populations, the status of prevention programs in place, and the barriers and facilitators to implementing these programs. Based on results from the literature review and interviews, recommendations for strengthening of prevention programs will be proposed. The goal of this thesis is to discover a potential solution that can prevent the adoption of maladaptive coping skills in the form of substances and alcohol by many adolescents. Equipping students with adaptive coping skills can help them not only lead healthy physical lives but also healthy emotional lives.

PART I: BACKGROUND AND LITERATURE REVIEW

I. The Physical, Mental, and Societal Effects of Addiction Nationwide

According to the 2015 Monitoring the Future study, substance and alcohol use trends among youth remain persistent in the United States ("Monitoring the Future Study," n.d.). This report revealed that 64% of twelfth graders had initiated alcohol use and 49% had initiated illicit drug use. This trend can also be found on the statewide level in Texas. According to the Texas School Survey of Drug and Alcohol Use report (Public Policy Research Institute, 2016), 34.6% of seventh graders had used alcohol and 7.6% had used an illicit drug. This report also included an older cohort of twelfth graders, where the rates of alcohol use increased to 71.8% and of substance use increased to 41.8% (Public Policy Research Institute, 2016). High school is a formative period for adolescents, and many choose to partake in risky health behaviors during this time. Hawkins et al. (1997) reported that age of alcohol use initiation was related to an increased prevalence of alcohol misuse in late adolescence and later in life. Age of initiation was the strongest predictive factor of alcohol misuse, proving more influential than parent's drinking, proactive parenting, peer alcohol initiation and ethnicity, and school bonding (Hawkins et al., 1997).

Children's Optimal Health published a report about the state of student substance use in Austin Independent School District (Millea, Christian, Stojakovic, & Rao, 2013). The authors distributed a self-report survey to 8,480 middle school and high school students in AISD in 2011. This survey found that not many students suffer disciplinary consequences for substance use because most of the actual use occurs off-campus. The survey also found that 55% of high school students have never been enrolled in a class that taught drug resistance strategies. 44%

percent of these high school students had used alcohol at least once, and 33% of these students endorsed ever having used marijuana (Millea et al., 2013).

A survey of US adolescents reported that substance use disorders have one of the earliest ages of onset, the rate increasing steeply by the age of 15 (Merikangas et al., 2010). By the age of 18, there is a 23.8% chance of developing a substance use disorder. They also report that initiation during adolescence is a strong predictive factor of later substance misuse, stating that about four out of five drug users begin during adolescence (Merikangas et al., 2010). According to the National Center on Addiction and Substance Abuse at Columbia University, 90% of Americans who met the criteria for substance use disorder first began smoking, drinking alcohol, or using substances before the age of 18 ("Teenage Addiction - Symptoms | The National Center on Addiction and Substance Abuse," n.d.). Among these people who begin using substances before the age of 18, one in four are addicted. Among people who begin using substances after the age of 21, only one in twenty-five are addicted ("Adult Addiction - Warning Signs | The National Center on Addiction and Substance Abuse," n.d.). These results support that adolescence is a critical time to intervene with preventative measures for substance and alcohol misuse. Even more immediate than developing substance use disorders in the future, 4,358 underage drinkers die of alcohol-related incidents a year. Another 188,000 underage drinkers sustain injury from alcohol use per year ("Underage Drinking," 2016). By intervening in high school, we can prevent a sizeable fraction of students from initiating alcohol and substance use before the age of 18, decreasing their risk for developing misuse behaviors later in life.

The first-ever Surgeon General's report on the status of drug and alcohol addiction (US Department of Health and Human Services: Office of the Surgeon General, 2016) exposes addiction as "a chronic brain disease that has potential for recurrence and recovery," not a choice

(US Department of Health and Human Services: Office of the Surgeon General, 2016). Viewing addiction as a disease instead of a personality trait is one of the first steps in educating people how to prevent it from taking hold.

One of the clearest artifacts of addiction is the change in brain regions of the basal ganglia, prefrontal cortex, and extended amygdala. These disruptions are connected to the behavioral aspect of the disease, which includes: strongly associating some cues with initiation of substance seeking and stress response, reducing sensitivity to reward and pleasure brain pathways, and reducing functionality of executive brain functions, including decision making, action regulation, impulse reactions, and emotional reactions (US Department of Health and Human Services: Office of the Surgeon General, 2016). These changes do not disappear when a person stops using a substance, but are often present for the rest of their lives, making relapse likely after treatment. In fact, greater than 60% of people who have undergone treatment for a substance use disorder relapse within the first year. The population particularly at the risk for the most brain damage due to addiction is adolescents. During adolescence, the brain, especially the prefrontal cortex, still has not finished developing, making changes particularly lasting (US Department of Health and Human Services: Office of the Surgeon General, 2016).

Drugs and alcohol also have many other medical consequences. Immediately after use, drugs such as cocaine, heroin, and LSD can cause nausea and vomiting. Long-term use of other drugs may cause chronic conditions. The use of intravenous drugs puts users at particular risk developing collapsed veins, bacterial infections in the heart and blood vessels, HIV, and hepatitis. The use of inhalants and stimulants can have adverse cardiovascular effects, including abnormal heart rates and heart attacks. Drugs that can be smoked or inhaled, like tobacco, marijuana, or cocaine, can cause severe respiratory problems from bronchitis and asthma to

emphysema and lung cancer. Steroid use in particular can have serious consequences for the muscles and bones. Steroid use in adolescence or childhood can lead to bones ceasing growth prematurely and developing severe muscle cramping and weakness. One of the most expensive consequences of drug use is kidney damage, requiring dialysis. Heroin, MDMA, PCP, and inhalant users are particularly at risk for kidney damage or failure. From filtering out toxins in the body at a high speed, livers of substance and alcohol users can also suffer intense damage ("Medical Consequences of Drug Abuse," 2012).

In addition to the changes in brain pathways from addiction, many drugs can also cause damage in the brain, seizures, and strokes. These changes in brain structure can also lead to chronic mental health problems, such as depression, aggression, paranoia, and hallucinations. Tobacco and steroids are strongly correlated with mouth, stomach, lung, and neck cancer. Perhaps one of the most tragic manifestations of drug use is the effect on babies with mothers who used while pregnant. Drug use during pregnancy has been linked to miscarriage, premature birth, low birth weight, and behavioral and cognitive problems. Although these medical consequences take place during or after chronic use, the process of stopping use can cause severe withdrawal symptoms with other health consequences. Withdrawal can cause incredible emotional and physical distress, including fatigue, restlessness, changes in appetite, muscle and bone pain, and nausea. In its most severe form, alcohol withdrawal may cause death because of the body's accustomed need for alcohol. Especially since the 1980s, there has been a significant increase in drug-related deaths. In 2012, it was reported that about 25% of deaths were caused by alcohol, tobacco, or illicit drug use ("Medical Consequences of Drug Abuse," 2012).

While alcohol addiction has many of the same physical and mental consequences as drug addiction, alcohol addiction can also cause pancreatitis, dementia, breast cancer, liver cancer,

throat cancer, fetal alcohol syndrome, and weakening of the immune system. The type of dementia that chronic alcohol addiction may cause is called Wernicke-Korsakoff Syndrome, which causes memory loss and dysfunction, double vision, lack of muscle coordination, and a confused mental state. When not treated immediately, the symptoms of Wernicke-Korsakoff Syndrome will become permanent (Krause & Roth, 2015).

The Office of the Surgeon General includes in their 2016 report the risk and protective factors for substance use problems and disorders. Some of the risk factors are easy access to alcohol and substances within the community, low parental monitoring, family conflict and violence, and a family history of substance use or mental disorders. On the individual level, risk factors include mental disorders, low school involvement, abuse and neglect history, and substance use during adolescence. The protective factors are the opposite of many of these risk factors, including: higher cost of alcohol and substances, barriers to obtaining substances and alcohol illegally or by a minor, access to healthy recreational and social activities, regular monitoring by and support of parents, school involvement, and good coping skills (US Department of Health and Human Services: Office of the Surgeon General, 2016).

Handren, Donaldson, and Crano (2016) examined the protective and predictive factors of adolescent alcohol use initiation. They found that a protective factor of initiation was high parental involvement because it predicted high self-esteem and low self-derogation. In the same vein, low self-esteem and high self-derogation were predictive factors of alcohol use. Other predictive factors for high school students included lower risk perceptions, peer pro-alcohol norms, and lower personal disapproval of use. They also found that the rate of students who used alcohol in tenth grade was quadrupled by the time they reached twelfth grade, peer norms being one of the strongest predictive factors (Handren, Donaldson, & Crano, 2016).

II. Review of Successful and Unsuccessful Alcohol and Substance Use Prevention Programs

Successful Programs

One of the first successful randomized controlled trials on preventative alcohol education was conducted by Duryea, Mohr, Newman, Martin, & Egwaoje in 1984. This study examined the efficacy of an alcohol education program for increasing knowledge of alcohol's effects on performance, the refusal skills of students, creating negative attitudes towards drunk driving, and increasing resistance strategies to peer pressure among 155 ninth grade students in Nebraska. In the examination of results pre-intervention, post-intervention, and six months post-intervention, the authors found that the knowledge of alcohol's effects, and refusal skills were significantly higher, and compliance to peer pressure was significantly lower, post-intervention and six months later. Riding with drunk drivers significantly decreased immediately post-intervention, but not six months after the intervention (Duryea, Mohr, Newman, & Martin, 1984).

One of the first randomized controlled trials of a drug use prevention intervention was conducted by Botvin, Baker, Dusenbury, Botvin, and Diaz in 1995. This study examined the long-term effects of a school-based prevention program for drug use. The researchers followed a sample of 3,597 students from seventh grade, when the program was first administered, to twelfth grade. The program was designed to teach resistance to social influences to use drugs, personal skills, and social skills in fifteen class sessions. The authors found that there were significantly fewer students who used drugs in the group that received the prevention program compared to the control group. Specifically there were 44% fewer students who used drugs and 66% fewer students who used multiple drugs. Botvin et al. concluded that the key to a successful prevention program was to focus the curriculum on social resistance skills and general life skills.

Proper implementation of the program and two-year booster sessions were also important to the success of the program (G J Botvin, Baker, Dusenbury, Botvin, & Diaz, 1995).

Lenoue & Riggs (2016) reviewed the efficacy of three substance use prevention programs for high school and middle school students in the United States: the unplugged program, the life skills training program, and the good behavior game. This review found that there was good evidence to support the efficacy of these three universal substance use prevention programs, but not enough evidence to support the efficacy of selective and indicated prevention programs (LeNoue & Riggs, 2016).

Foxcroft & Tsertsvadze conducted a wide review of universal school-based alcohol prevention programs in 2012 as part of the Cochrane Review series. The authors reviewed 53 studies of universal school-based prevention programs for alcohol misuse among minors. All studies were randomized controlled trials of students under 18 years old who were enrolled in an alcohol misuse prevention program. The review found the Good Behavior Game, Life Skills Training Program, and the Unplugged Program to be the most effective at reducing drunkenness and binge drinking. All of these programs focused on psychological and developmental approaches. Not only are these approaches more successful than direct drug and alcohol education, but they also address other problem behaviors (Foxcroft & Tsertsvadze, 2012).

Spoth, Trudeau, Redmond, & Shin (2014) examined the efficacy of the Life Skills Training and Strengthening Families Program more deeply. The purpose of the randomized controlled trial was to examine the effect of delayed substance use initiation during adolescence on substance use in adulthood. Life Skills Training is specifically focused on social learning theory and problem behavior theory to promote development of skills, such as social resistance, self-management, and general social skills. The Strengthening Families Program is based on

addressing factors in the family environment that are connected to substance misuse and other problem behaviors. The students enrolled in these programs were seventh grade students and their families from 36 rural Iowa schools. This study found a relative reduction in use of substances, cigarettes, and alcohol use for the high-risk (Spoth, Trudeau, Redmond, & Shin, 2014).

Orlando, Ellickson, McCaffrey, & Longshore (2005) conducted a randomized controlled trial and analysis of the components of Project ALERT. The main focus of Project ALERT is to help students realize that most people do not use substances or approve using substances. The program guides students to understand the benefits of not using substances, the pressures they may experience to use, and understand the consequences of using. Their goal was to determine which parts of the program are most effective in reducing substance use. The study involved 34 middle schools and high schools in South Dakota. They found that peer influence was one of the strongest mediators, while self-efficacy was one of the least influential mediators of intervention effects on outcomes. In all, this study supported Project ALERT curriculum's model, which includes the social influence model, the health belief model, and the self-efficacy theory (Orlando, Ellickson, McCaffrey, & Longshore, 2005).

Werch, Moore, DiClimente, Bledsoe, and Jobli (2005) examined the implementation of a multi-health behavior intervention that integrated alcohol use prevention messages with physical activity methods. This randomized control trial examined 604 ninth and eleventh grade students from northeast Florida. In the experimental group, each student was given a twelve-minute one-on-one consultation about alcohol avoidance, fitness promotion, and health behaviors. The control group received a wellness brochure in school and information about teen health and fitness mailed to their home. The authors found that the intervention produced a significant

reduction in alcohol consumption, drug use behaviors, and drug use initiation in the experimental group. These effects were measured to maintain up to 12 months posttest (Werch, Moore, DiClemente, Bledsoe, & Jobli, 2005).

Mitchell et al. (2012) examined the efficacy of the SBIRT (Screening, Brief Intervention, and Referral to Treatment) model in preventing substance use in a school-based program. The intervention was delivered to students in thirteen different New Mexico high schools. The intervention consisted of a screening for risky health behaviors, followed by a brief intervention to address those risky behaviors, and potentially a referral to treatment if substance or alcohol use had already initiated. The researchers found that students who received the brief intervention reported significant reductions in intoxication and drug use. These results held for up to six months posttest (Mitchell et al., 2012).

Some program designers have chosen to use an early intervention approach to prevent later substance or alcohol misuse. Walker, Roffman, Stephens, Berghuis, and Kim (2006) conducted a study with the aim of determining the efficacy of motivational enhancement therapy as a brief intervention for adolescent marijuana users, as well as the success of the program in attracting adolescent participants voluntarily. Motivational enhancement therapy is an interviewing counseling style that offers personalized feedback on substance use. This study included ninety-seven adolescents from four different Seattle high schools. In order to study heavy marijuana users, the researchers selected participants for the treatment and control groups who had smoked marijuana on more than 9 days in the last 30 days. The study found that there was a reduction of at least 50% of marijuana use three months after the intervention. However, there was a significant effect of time on the observed marijuana use; therefore, the decrease in marijuana use may have been a result of time passing and not the intervention. Although the

results in this study were not very impressive or included a large enough number of participants to make a powerful conclusion, they did successfully recruit heavy marijuana users to engage in brief intervention. This study is important in continuing the efforts to intervene in heavy marijuana users' lives during adolescence (Walker, Roffman, Stephens, Wakana, & Berghuis, 2006).

Allen et al. (2014) conducted a randomized control trial to test a culturally grounded model of alcohol use and suicide prevention for Alaska Native youth. This program was developed from a protective factors model that included rich and qualitative life histories of Alaskan Natives. It focused on individual characteristics of problem solving and goal achievement, family characteristics of conflict, cohesion, and expressivity, community characteristics of support and opportunity, peer influences, reflective processes, and reasons for life. The model focuses on positive and strengths-based instruction, which was previously validated as an effective approach for prevention and health promotion among Yupik (Alaska Native) youth. This trial examined 413 rural Alaska native youth that were 12-18 years old and from the Yupik community. The students felt that the intervention was useful because it was intended for prevention of these behaviors. They also discovered that peer influences and community influences were extremely important to the youth in this program (Allen et al., 2014).

Unsuccessful Programs

Prevention programs are not always effective. In fact, many studies have failed to demonstrate the efficacy of substance and alcohol use prevention programs in high schools. Williams, DiCicco, and Unterberger (1968) wrote one of the first studies conducted on alcohol prevention programs. This study examined the efficacy of an alcohol education program,

centered around small group discussions, at a private Catholic high school in Westwood, Boston. These eleventh-grade students were primarily of high socio-economic status. The study found that there was a nonsignificant decrease in drinking more than five times in the past year and being intoxicated in the past year. The level of alcohol use in the past year did not change (Williams, DiCicco, & Unterberger, 1968).

D'Amico and Fromme (2002) examined the efficacy of Drug Abuse and Resistance Education (DARE-A) and Risk Skills Training Program (RSTP) intervention in preventing adolescent risk-taking behaviors. The study population included 300 14-19 year-old suburban high school students. This study found that RSTP decreased risky behaviors in the short term, but failed to maintain this effect six months post-treatment. DARE-A actually increased positive attitudes toward alcohol use. This study highlights how impressionable high school students are and that it is vital to use a curriculum that will decrease drug use in the long term. DARE-A was a widespread drug resistance education program at that time in the United States. Its curriculum focuses on increasing understanding and knowledge of the effects of substance use. Many other curriculums focused on drug education show no significant effects or even increase drug use in the sample (D'Amico & Fromme, 2002).

Newman, Anderson, and Farrell (1992) examined a similar alcohol education program to that of D'Amico & Fromme (2002). The purpose of this study was to examine the effect of an education program for reducing drinking, drunk driving, and riding with a drunk driver delivered by Social Studies teachers and English teachers to ninth grade students. This study found that there was a significant increase in knowledge of pressures to drink, but there was no significant decrease in drinking and drunk driving. It was also found that English teachers were more effective at teaching this program than Social Studies teachers. It seems that explicit education

about drugs and alcohol does not tend to be successful in decreasing initiation or further consumption among students (Newman, Anderson, & Farrell, 1992).

Goodstadt (1983) examined three different approaches to alcohol education. The purpose of this study was to examine a cognitive program, a decision-making program, and a values-clarification program in increasing knowledge about alcohol use and decreasing alcohol use initiation. The study found that the cognitive program increased knowledge of alcohol use, but the other programs failed to do this. All programs failed to change perceived relationships between drinking and valued goals. None of the programs succeeded in changing attitudes toward alcohol, decreasing alcohol use, or decreasing expected future alcohol (Goodstadt, 1983).

Campbell-Heider, Tuttle, & Knapp (2009) conducted a study that showed sometimes the usually effective programs that teach life skills and resistance strategies are ineffective. The purpose of this study was to report the results from the Positive Adolescent Life Skills Training program twelve months post-intervention. Positive Adolescent Life Skills Training curriculum focuses on developing teen resilience and supporting social skills development in order to make positive connections and resist the influence of negative environmental factors. The study population included 16 adolescents from ages 12 to 16. The results of this study found that there were significant reductions in mental health problems, but a slight increase in substance use problems among the population (Campbell-Heider, Tuttle, & Knapp, 2009).

Sun, Sussman, Dent, and Rohrbach (2008) examined Project Towards No Drug Abuse program in 18 different Southern California high schools. This approach compared the efficacy of cognitive perception information curriculum, cognitive perception information and behavioral skills curriculum, and a standard care control. The results of this study found that there were no

significant decreases in substance use one-year post treatment (Sun, Sussman, Dent, & Rohrbach, 2008).

The lack of demonstrated efficacy of these programs may in part be due to inappropriateness of content, poor design, and/or poor implementation. A report detailed by White in 2012 examined the author's own experience in implementing a prevention program in public schools. She found that there are many factors, including school philosophy, IRB consideration, student privacy, differing power structures, school schedules, transportation, and school district policy, that are barriers in implementing prevention programs and conducting research to accurately determine their efficacy. The author cautions future researchers to appropriately match the program with the school's values and to plan these studies extensively to ensure accurate collection of results (White, 2012).

Analysis

Analysis of both effective and non-effective prevention programs for substance and alcohol use can provide insights as to what should be done to ensure a maximum level of impact on adolescent risky behaviors. In order to ensure the success of a program, the research examining the successful factors of some programs versus the failure factors of others will be incredibly important. This research can be used to select appropriate programs based on each school's needs and cultures. A study conducted by Hansen, Dusenbury, Bishop, and Derzon in 2007 examined the content of substance use prevention programs. They found that programs containing factors related to changing access within the environment, personal and social skills development, positive affiliation, understanding social influences, social support for participants, positive school development, and encouraging motivation to avoid substance use were the most

effective in preventing substance use (Hansen, Dusenbury, Bishop, & Derzon, 2007). A study by Orlando, Ellickson, McCaffrey, and Longhore (2005), also found that social influences, particularly peer influence, were highly predictive of use of substances or alcohol during high school. Therefore, like Hansen et al., they concluded that implementing a program with social influences in mind was incredibly important (Orlando et al., 2005). Hecht and Krieger (2006) found that cultural factors incorporated into substance use prevention programs were also incredibly important in their efficacy. They found that developing a universal prevention program for one school would be most effective if it incorporated a multicultural curriculum, which catered to the ethnic composition of the school (Hecht & Krieger, 2006).

In 2000, Botvin conducted a review of school-based prevention programs to look at the individual-level etiologic factors and potential mediators that may affect success of the program. Botvin states that most early prevention efforts were based on intuition, and not theory. They mainly focused on direct drug education, drug facts, and healthy alternatives to drugs. As more research was done on prevention methods, social influence approaches and competence enhancement approaches tended to be more successful in decreasing substance and alcohol use. The social influence approach focuses on developing a resistance to pro-drug social influences, education about the actual low prevalence of substance use, and developing resistance skills. The competence enhancement approach is based on social learning theory and problem behavior theory where drug use is seen as socially learned and a behavior that is caused by an interaction of certain social and personal factors. This approach attributes drug use to being learned through modeling, imitation, and reinforcement, as well as the person's own pro-drug cognitions, attitudes, and beliefs. Competence enhancement focuses on developing self-management skills and social skills. Botvin identifies the best prevention approach to be the one that targets the

beginning of adolescence and teaches drug resistance skills in combination with personal and social skills. He also emphasizes the demonstrated efficacy of use of booster interventions to maintain sobriety all the way through high school (Botvin, 2000).

III. Barriers to Prevention Research in Schools

Two of the most prevalent challenges in substance and alcohol use prevention research are implementing prevention programs and conducting research to evaluate those programs. Rohrbach, Graham, and Hansen (1993) conducted a study to examine the predictors of successful implementation of a psychosocial-based substance use prevention program. The researchers measured quality of teacher implementation, adoption, and maintenance, teacher characteristics for implementation, integrity of program delivery and resulting outcomes, and the efficacy of teacher training and school principal involvement. The study population consisted of teachers, school principals, and students from four different Los Angeles area school districts. This study found that there was a significant reduction in maintained implementation of the program. Of those that maintained the program implementation, they had less teaching experience, while stronger self-efficacy, enthusiasm, preparedness, teaching methods compatibility, and encouragement from the principal than did those who failed to maintain implementation (Rohrbach, Graham, & Hansen, 1993).

A review published by Sobeck, Abbey, and Agius (2006) examines the reasons why a five-year substance use prevention program (the Michigan Model for Comprehensive Health Education) failed to produce any significant results. The main reasons Sobeck et al. identified were poor initial selection of a program, low school involvement and readiness, low monitoring of program fidelity, and little evaluation planning (Sobeck, Abbey, & Agius, 2006). White (2012) also found that there are many logistical challenges to implementing prevention programs. White found conflicts with the school's philosophy, IRB consideration, student privacy, differing power structures, school schedules, transportation and school district policy in

implementation of an after-school intervention. White emphasizes the importance of selection of a research site, recruitment of participants, and participant retention in the success of implementation of prevention programs (White, 2012).

To combat these difficulties, SAMHSA has published a thorough guide on implementing prevention programs by following the Strategic Prevention Framework (SPF). SPF focuses on five major steps: assess, build capacity, plan, implement, and monitor/evaluate. Each part of this plan is also checked for cultural competency and sustainability. The assessment step involves collecting information on the population needs, resources, and readiness to address issues in the community. The second step of building capacity requires the mobilization of the community to address the community's needs (Flewelling, Birckmayer, & Boothroyd, 2009). The third planning step requires the creation of a comprehensive strategic plan that prioritizes risk and protective factors, selects effective evidence-based interventions, and builds a logic model to connect all of the problems and factors with interventions and intended outcomes ("Applying the Strategic Prevention Framework (SPF) | SAMHSA," n.d.). SPF is supported by data collected by the State Epidemiological Data System (SED). This system is used to track patterns of substance and alcohol use around the country as well as their social, health, and safety consequences in their specific areas. The fourth step of implementation is actually starting the prevention programs in the community. The fifth step of monitor and evaluate is to keep track of the successes and failures of the implemented program. In this step the appropriateness for cultural competence and sustainability is also assessed and improved upon (Flewelling et al., 2009). SAMHSA keeps track of programs that implement SPF on their web page "Grantee Stories, Tools, and Other Resources." So far, six programs have published their stories and results from using this intervention plan ("Grantee Stories, Tools, and Other Resources | SAMHSA," n.d.).

Perhaps this low number reflects another challenge in prevention research, which is the actual collection of research on implemented programs. Sloboda, Cottler, Hawkins, and Pentz reflect on the last forty years of substance use prevention research in a 2009 article. Before 1974, a lot of substance use prevention programs were ineffective due to the lack of knowledge about the mechanisms of developing substance misuse behaviors and problems. In 1974, the National Institute on Drug Abuse (NIDA) was created, and they began to emphasize epidemiological research as a way to improve the strategies in combating drug misuse. They began collecting information on the prevalence and the protective and risk factors of substance use through the Monitoring the Future Study and the National Household Survey on Drugs. In 1977, Dr. Albert Bandura developed social learning theory, which became an integral part of most substance use prevention programs that were focused on developing situational resistance skills as well as life skills. The future of substance use prevention looked bright so NIDA continued to fund prevention research well through the 1980s. About fifty effective and empirically tested prevention programs arose from this movement. At the end of the 1980s, Sloboda identified a particular problem that plagues not only substance use prevention research, but also many other fields of science: the training of the new generation of scientists. Sloboda has encountered difficulties in training the new wave of scientists to be interested in this field and provide an institution for its sustainability (Sloboda, Cottler, Hawkins, & Pentz, 2009).

Although the future of substance use prevention research was looking great by the end of the 1980s, during the 1990s, the sentiment towards substance use prevention programs changed with the increase in youth drug use. This rise sparked doubt of the programs' efficacy (Paglia & Room, 1999). In 1998, Brown and Kreft published a review on the integrity of substance use prevention program research. In their review, they found that many of the programs evaluated

involved near-sighted evaluation, selective reporting of findings, popular media influence on reporting of results, unreported detrimental effects of programs, and assumption of efficacy (Brown & Kreft, 1998). Despite massive spending on drug prevention programs, adolescent substance use prevalence seemed to have increased from the 1980s to 1995. Most of the programs available at the time encouraged a no use and zero tolerance approach to drug use. Instead of explaining the logic of abstinence to adolescents, this approach required them to blindly believe in the program's philosophy. During the 1990s, it was also reported that the widely popular DARE program was found to be ineffective in the long term (Brown & Kreft, 1998).

In the early 2000s, interest in substance use prevention programs was renewed and the field has made incredible research strides in the past fifteen years. The use of an epidemiological model for tracking substance misuse has become popular among researchers and has shown to be effective (Sloboda et al., 2009). The introduction of SPF by SAMHSA in 2003 further supported this reintroduction of evidence-based prevention programs (Flewelling et al., 2009). Due to this fickle history of substance use prevention research, the field is currently catching up for the lack of support they received in the 1990s.

Along with large-scale barriers to research, Renes, Ringwalt, Clark, and Hanley (2007) identified challenges of conducting substance use prevention research in a school setting. Many of the challenges researchers face in the implementation of prevention programs also apply to conducting research in these settings as well. Renes et al. identify the main challenges of this type of research to be recruitment, communication, research design, student surveys, and fidelity. Recruiting a school for an apparently exciting opportunity such as this can be challenging, especially since the implementation of the No Child Left Behind act. Now more than ever there

is an increasing demand on schools for meeting high standard academic criteria without providing them adequate resources to do so. While researchers often provide all of the resources necessary to implement their programs, schools may not be able to come up with enough time and focus on the program that is required. Time also becomes an issue when it comes to communication. It is often hard for the researcher to communicate effectively with the principals, vice principals, and the teachers or counselors who are delivering the intervention. There is often a constraint on time to deliver the intervention while also keeping up with the educational curriculum. Often times there may be a high rate of turnover in the administration, so conducting longitudinal studies becomes dependent on the willingness of the new administration for continuing the project. This also may cause disruptions in the implementation of the program, modifying the results and efficacy (Renes, Ringwalt, Clark, & Hanley, 2007).

Renes et al. (2007) identified that the randomized controlled trial model, which is often used and most respected in evaluating programs, can be challenging to conduct in a school setting. Schools are often resistant to complete randomization of their students due to the concern that not delivering a potentially beneficial intervention to half of the student body is unethical. While this is the most valid method for assessing program efficacy, it is often not supported by the school's administration. The validity and privacy of student surveys are also a point of concern for most schools. The reliability of student surveys is often questioned because of the honesty of the students answering them. Fearing for a breach of their privacy or consequences, students may not answer the surveys truthfully. Parents of students also become concerned with a breach of their family's privacy. While researchers often take the time to explain the strict confidentiality practiced in these types of research projects, privacy still remains a prevalent concern that possibly affects the study's results. Because of the abovementioned issues, program

fidelity is often a problem with research in school-settings. Administrators of the intervention curriculum often do not adhere strictly to the instructions for administering the program. The delivery of the intervention can drastically effect the evaluation of its efficacy. It is important for researchers to examine how the program was delivered and help the administrators of the program implement the program in the way that it was intended. While health promotion is essential for children, especially adolescents, it often conflicts with educational responsibilities and the nature of a school setting (Renes et al., 2007).

IV. The Status of Substance and Alcohol Use Prevention in AISD

Prevention programs that have been implemented into high schools have shown statistically significant reductions or delays in use and initiation among its students. If we can delay or reduce substance and alcohol use initiation in adolescence, then we can further prevent the onset of substance and alcohol use disorders in adulthood (Hawkins et al., 1997). In 2008, Ringwalt et al. reported that 56.5% of school districts across the nation implemented a substance use prevention program in at least one of their constituent high schools. However, only 10.3% of school districts implemented an evidence-based program recommended by the Substance Abuse and Mental Health Services Administration (SAMHSA). Ringwalt et al. also report that some of the most significant barriers to implementing evidence-based programs is funding and time in student's schedules (Ringwalt et al., 2008).

AISD has some resources and programs available for teachers to implement preventative lesson plans. AISD sponsors the use of Social Emotional Learning curriculum from the Collaborative for Academic, Social, and Emotional Learning website ("CASEL," n.d.). They also take advantage of a tool created by Dell Children's Medical Center, *Health Teacher,* which aids the teachers in delivering health education material (Millea et al., 2013). Social and Emotional Learning is a framework that teaches five core competencies, social awareness, relationship skills, responsible decision-making, self-management, and self-awareness. The advantage of using Social and Emotional Learning is that it can be integrated with regular core curriculum, like reading, math, history, etc. The long-term behavioral and academic outcomes targeted by this curriculum are positive social behavior; fewer conduct problems, less emotional distress, and improved academic performance. CASEL has found that effective implementation

of the Social and Emotional Learning curriculum often incorporates sequenced activities that develop skills, active learning for students to gain new skills and improve attitudes, focused development of personal and social skills, and explicit targeting of social skills and emotional responses ("Approaches," n.d.).

Durlak, Dymnicki, Taylor, Weissberg, & Schellinger conducted a review of the Social and Emotional Learning curriculum across 213 elementary, middle, and high schools in 2011. They argue that during high school, 40-60% of students become disengaged from academics and engage in high-risk health behaviors, like substance use, violence, sex, and attempted suicide. Social and Emotional Learning aims to foster a more supportive social, emotional, and cognitive environment that indirectly combats these behaviors. Of the 213 studies Durlak et al. reviewed, 13% were studies of high schools. People who received the Social and Emotional Learning curriculum showed significantly improved attitudes, behavior, social and emotional skills, and academic performance. These improvements were most significant when the curriculum was delivered in a school setting (Durlak, Dymnicki, Taylor, Weissberg, & Schellinger, 2011).

AISD incorporates the Social and Emotional Learning curriculum into health education curriculum that they have developed. In order to graduate from an AISD high school, you must have a half credit of health education. The health education curriculum incorporates Social and Emotional Learning skills, problem behavior theory, technology skills, and literacy to teach students about health and wellness, physical fitness, nutrition and weight management, alcohol and tobacco awareness, illegal drugs and medicine awareness, mental health, sexual health, relationships, family health, and diseases and disabilities ("Health Education," 2017).

AISD introduced Social and Emotional Learning Curriculum to the district in 2011. Similarities across all AISD high schools with social and emotional learning curriculum are that

they are lead by a SEL steering committee. This committee is headed by a designated facilitator that serves as a point of connection between the SEL district department and the campus. This individual provides support for implementing this curriculum and developing campus plans for dissemination of this information ("Implementation in AISD," 2017). SEL works as a set of guidelines for schools to promote certain values. Therefore, there are no specific requirements for how the program should be implemented in every school. Instead, the school's leadership has the ability to adapt the program to its own curriculum ("Implementation in AISD," 2017).

Another prevention service offered by AISD for their students is the placement of one school-based ATCIC therapist in every high school. These school-based therapists are part of a collaboration between AISD Comprehensive Health Services, Austin Travis County Integral Care, Vida Clinic, and Seton Health Care Family to form School Mental Health Centers (SMHCs). The purpose of this program is to house at least one trained therapist in every high school and middle school in AISD. The goal of this program is to make therapy more accessible to students by providing in-school services. The main services that the SMHCs provide are clinical assessments, ongoing individual psychotherapy, family counseling, access to psychiatry, crisis support, and consultation and collaboration with school staff and community providers. More acute cases that cannot be adequately addressed by school counselors are more likely to be referred to SMHC therapists for additional therapy ("SMHC Brochure," n.d.).

Another prevention resource implemented by AISD is the Child Study Team (CST). The CST is a team of administrators, counselors, teachers, parents, and other professionals that create targeted interventions for students exhibiting problem behaviors. This team meets twice a month to discuss individual cases of students and develop an intervention program to help address issues they are exhibiting. Most of these interventions are secondary and tertiary prevention. The

interventions are scheduled for delivery on many different levels, by coaches, teachers, or other points of contact with the student. The student's progress is monitored in the eCST, which is a form of electronic record system for keeping track of interventions and facilitating communication between members of each child's support network ("Austin ISD Child Study System," n.d.).

PART II: INTERVIEWS AND QUALITATIVE ANALYSIS

V. Purpose of this Study

The purpose of this study was to determine the state of substance and alcohol use prevention in the high schools of Austin specifically. I examined service providers' perceptions of the prevalence of substance and alcohol use in four AISD schools, risk and protective factors for students' use, methods for intervening in students who use substances, and barriers and facilitators of substance use prevention program implementation. By interviewing service providers at each respective high school I gathered information, as well as an emic perspective, into the perceived status of substance and alcohol use prevention presence and efficacy. With this information, I generated recommendations for potential resources for each school that would aid in the implementation of more effective programs.

VI. Methods

Participants

Service providers from 4 AISD high schools participated in the current study. These schools will be referred to as School A, School B, School C, and School D. Schools were selected based on the criteria that they included grades 9-12 and were located in the Austin area. Schools B, C, and D have a student body that was at least 60% economically disadvantaged. School A had a student population that was less than 10% economically disadvantaged. The criteria for the selection of each interviewee was that they had to work in the school setting, work directly with students in the provision of some form of social and emotional support, and could speak to general trends of the student population. The official titles of the participants interviewed are wellness counselor, school-based therapist, social services specialist, and social worker. All participants held either an LPC or LSW certification, and had been in their profession for at least five years.

Procedures

One service provider at each of the four high schools was contacted by email in late November requesting their participation in the current study. This email informed them of the nature of the study as a qualitative survey of service provider's perceptions of substance and alcohol use prevention in AISD high schools. This email explained that the interview would take place at their respective high school and take approximately one hour. If the counselor agreed to an interview, the interviewer notified them that they would be contacted in late January to schedule the interview. Each was confirmed for an interview the following February. In

February, each service provider was interviewed for approximately one hour at their respective high school. The interview topics concerned their perceptions of their respective school's priorities, problems, and status of substance and alcohol use in the student body. The interviewer also gathered information regarding the presence or absence of primary, secondary, and tertiary prevention measures for substance and alcohol use. The interviewer asked about external factors relevant to program implementation, such as parental involvement, external programs, and external grants. Each interview was audio recorded after the interviewee agreed to informed verbal consent. The study protocol was found to be exempt from review by the Institutional Review Board of the University of Texas at Austin.

Measures

The interview questions can be found in Appendix A. The purpose of these questions was to first gather whether the priorities of the school address the most prevalent problems of the student body. I also followed up with a question about how they perceived the prevalence of substance and alcohol use was in their school if it was not their predominant problem. Then, I discerned the service provider's perception of the predictive factors of substance and alcohol use. These perceptions may have played into their reasoning for selecting a certain prevention program. All of the AISD schools used the social and emotional learning curriculum provided by the school district, but many had supplementary programs as well. These supplementary programs were sometimes harder or easier to implement depending on the resources or barriers present. These questions about resources and barriers helped me to identify the places where schools may need more aid in health promotion education. Sometimes the programs in place for students were not enough and these professionals had their own opinions about what would be a

better program or resource for intervening with their students. The last question of the interview left an open-ended opportunity for the counselors to express any additional information about their perceptions of the issue of substance and alcohol use in their school. These questions were asked with a specific goal in mind for obtaining information, but were also left open-ended and followed up with requests for clarification. This method allowed the service providers to no only answer the questions, but also expand on their answers s that I could understand what was really important to them.

Analysis

Interview responses were evaluated based on thematic analysis (Braun & Clarke, 2006). Before interviews began, the interviewer created a list of a priori codes to help guide analysis. Each interview was transcribed onto a separate excel document for each school. The transcriptions were reviewed first by a primary coder (the author), and then reviewed by a secondary coder (the thesis supervisor). Coding began with the a priori codes initially, and additional codes were added as necessary. The interviews that did not initially include these codes were reanalyzed for these new codes. The coders met on a weekly basis to discuss each transcript and disagreements or discrepancies regarding coding were resolved via discussion and coder consensus. See Appendix B for a list of final codes and descriptions. Frequency counts for each code were used to determine which topics were the most prevalent among the four interviews. A minimum frequency of four was selected to differentiate select codes that were relatively more prevalent from the preponderance of codes that were relatively less prevalent. That is, there was a greater amount of codes with three or less instances for each school; so four instances set apart the codes that were truly prevalent. Similarly, a minimum frequency of eight

was selected for identifying the more relatively prevalent codes across all four schools. The number of schools in which the code was relatively more prevalent was also considered. Codes with relatively lower prevalence were nevertheless examined for importance. Such codes were usually the result of unprompted information that had implications for interpreting the way in which counseling was delivered at each school. “Counseling beliefs” and “school values” were among these codes. Codes were examined for similarities and differences, and grouped into overall themes. These themes were then used to determine the recommendations for further improvement of primary prevention for substance and alcohol use in the high schools. After this data was analyzed and interpreted, a written summary of the results was given to each school.

VII. Results

Thematic analysis of the qualitative data gave rise to six major themes described below: primary prevention, secondary prevention, perceived risk factors, circle of support for student, financial barriers, and school philosophy.

Primary Prevention

The theme of primary prevention emerged out of the codes "primary prevention" and "one-on-one as a method of dissemination." School A delivered primary prevention for substance and alcohol use through school-wide presentations to the whole school. In contrast, the other three schools delivered primary prevention and early intervention mostly via one-on-one counseling meetings, conversations with teachers, or observations made by faculty and staff. In one-on-one counseling meetings, service providers delivered psychoeducation to students thinking about initiating use or had just recently initiated use. Much of the providers' time was taken up by one-on-one sessions with students either for ongoing therapy or psychoeducation. Teachers acted as a primary resource in monitoring the students for changes in behaviors or any other concerns by building a relationship with them. School D additionally delivered primary prevention in a formal social and emotional learning (SEL) class required for all freshman. This class focused on developing life skills, good support networks, problem solving skills, coping skills, and knowledge of the many support services offered by the school.

Secondary Prevention

The theme of secondary prevention consists of the codes "outcomes for initiated: consequences/disciplinary," "outcomes for initiated: psychoeducation," "outcomes for initiated: provision of resources," "outcomes for initiated: therapy and counseling," and "school

facilitators: resources." This theme centered on the services provided to students after they have initiated substance use in order to prevent them from further use or other poor outcomes. Most of the service providers noted that most instances of disclosure of use of substances could be discussed without breach of confidentiality. The major exceptions were when the student was noticeably intoxicated at school, using at school, or was in possession of a substance or alcohol at school. In these instances, disciplinary action was prioritized over intervention. Disciplinary action for substance and alcohol use follows the official AISD Student Code of Conduct handed down from the school district. The result of this protocol is the student's removal from school and participation in the Disciplinary Alternative Education Program at the Alternative Learning Center ("Alternative Learning Center," n.d.). Intervention is offered as a partial alternative to the ALC. Students are required to attend the ALC for only two weeks if they choose to participate in the INVEST Program. The INVEST Program takes place in the evening after the school day. Parents and students attend at least four sessions run by trained counselors to explore familial communication problems and substance use in a group focused on socio-education. The goal of this program is to prevent further substance use by improving familial relationships and increasing education about substances ("INVEST / Positive Families | AISD Alternative Learning Center," n.d.).

Psychoeducation involves instances where the counselor explains physical and mental effects and other consequences of substance use to the student after they have initiated use. By warning them of the ill effects of use, the hope of the counselors is to decrease future use. The reasons why students use substances is also explored, which will be discussed in more detail in the perceived risk factors theme. During these one-on-one sessions, students are often referred to

outside resources, whether a support group, external interventional program, or ongoing therapy to prevent future use with the strategy of addressing the underlying reason for use.

Therapy and counseling was one of these resources, which often involved establishing weekly meetings with school counselors or the ATCIC school-based therapist. Faculty and staff usually referred students to these school-based therapists when they noted a risky behavior that may be reflecting some deeper personal issues for the student. These service providers were then able to do clinical assessments with the student, provide on-going therapy, or refer the student to other services that may serve them better. The SMHC was also able to provide family counseling when needed between a parent and a student.

The most prevalent code that comprised this theme was "school facilitators: resources" at thirty-seven instances recorded. These resources, along with the resources coded for "outcomes for initiated: provision of resources," mostly refer to programs meant to bolster knowledge about substances, social skills, or professional development and address the student's basic needs. Some resources include drives sponsored by the school to collect clothing, school supplies, medical supplies, and food to help students address their basic needs. In some instances, social work services at the high schools will help students and their families find housing, meals, and laundry services. In fact, most schools have a social services specialist that focuses in parental support.

One of the most commonly mentioned professional development resources among the interviews was Communities in Schools. Communities in Schools is a nationwide organization that partners with schools to provide in-school professionals that coordinate with community partners to get low-income students the resources that they need. These resources range from food to professional development skills. The goal of Communities in Schools is to build

relationships between students and community partners, assess the needs of the students, provide the students with resources, and increase their chance of graduation. Many students are referred to services provided by Communities in Schools after teachers or counselors have observed concerning changes in a student's behavior ("About Us : Communities In Schools," n.d.).

When referring students to external programs particularly for concerns about substance and alcohol addiction, counselors often cited Phoenix House as a wonderful and holistic resource. Phoenix House is a national program working to provide "individualized, holistic drug and alcohol addiction treatment" to teens, adults, and families ("About Us | Phoenix House," n.d.). Phoenix House integrates care from psychiatrists, physicians, mental health professionals, social workers, teachers, and recovery specialists to provide patients with evidence-based interventions. This program focuses not only on recovery from the addiction, but addressing the underlying causes of the addiction while remaining flexible so that the student can continue to attend school ("About Us | Phoenix House," n.d.). This resource has recently been defunded for implementation into AISD, and is no longer available directly in the schools.

An in-school resource that is commonly used among the interviewed schools was the Child Study Team (CST). From the interviews, I perceived that the service providers almost always created a new case for the Child Study Team to track when they identified a student exhibiting risky behavior. This way they were able to track the student and deliver interventions early on. These teams were usually composed of concerned teachers, service providers, coaches, and administrators. This network was able to keep track of the student's behavior as well as deliver interventions on many different levels. Both schools C and D used the eCST system to track the interventions. Students were often only referred to this team after they had begun exhibiting visible risky behavior.

Perceived risk factors

The theme of perceived risk factors includes the codes for "family stress," "financial stress," and "reasons to use: self medicate." The interviewed service providers often cited two sources of family stress that contributed to students being more at-risk for substance use. One reason was substance use in the home. They observed that if substance use was normalized in the home or a parent was using, the student was more likely to use. The second reason was that students experiencing abuse, stress, or strained familial relationships in the home were more likely to use as a means of escaping from their situation, or self-medicating. This stress also included absence of parents in the home due to busy work schedules, and therefore increasing household responsibilities on the student as a result of that.

The service providers often stated that absence of parents in the home mainly had to do with financial issues. Some parents would need to work two or three jobs to provide for their families, especially in many of the homes that were single parent. Lack of financial resources made it difficult for some students to eat meals outside of school and find transportation to school. In some cases, students have to take part-time jobs as well to provide for their families, leaving less time for their schoolwork. In the most extreme cases, students and their families were unable to afford housing. To alleviate some of this stress, the social work teams of every school tried to work with as many families as possible to ensure they had access to their basic needs. As a result of this financial and familial stress, many students turned to substances or other risky health behaviors to cope, or self-medicate.

The most commonly cited perceived reason for substance and alcohol use was self-medication. According to those interviewed, students with significant stressors often lacked the coping skills necessary to deal with them. The presence of substances and alcohol on campus or

through their peers offers a ready solution for their pain. Schools often provided students with resources to learn adaptive coping skills after use had initiated, but had little primary prevention to help them develop social, resistance, and life skills to prevent initiation in the first place.

Circle of support for student

Another theme that emerged was the support network created for students by the teachers, administration, and parents. High participation in a student's social and emotional well being by these players was seen as vital in helping students avoid risky behaviors and develop good coping skills. One of the most important components for early intervention detection and referral to secondary prevention resources was the degree of teacher buy-in. Teacher buy-in refers to the amount of support by the teachers for the social and emotional well-being of the students and the encouragement to use resources available to them for these concerns. Most of the high schools employed the practice of Positive Behavioral Interventions & Supports (PBIS) as part of the Social and Emotional Learning Curriculum. PBIS is a model for school wide discipline that focuses on proactive strategies for teachers to support appropriate student behaviors with encouragement and as a result create positive school environments. This strategy focuses on rewarding students for good, prosocial behaviors, not on punishing students for bad behavior. PBIS is a form of primary prevention in that it encourages students to exhibit healthy behaviors and create good relationships with the faculty and staff of the school. The relationship between the student and teacher is invaluable in implementing early prevention for risky behaviors. These teachers see the students more frequently, and in some cases more than their parents. Using these relationships to implement early evidence-based interventions is an invaluable resource ("School," n.d.).

The second component of the circle of support is administration support. Many of the schools stated that support for social and emotional programs by the administration was key to having the resources to implement and even expand those programs. Many of the counselors credited the supportive culture of the school to the leadership of the principals. This participation from the administration also made it easier to implement interventions as part of the CST. Support from the principals is vital, because they are in charge of allocating money from the district to counseling teams and special projects. This budget allows them to select services that are most important for their school, such as wellness counselors, parent support specialists, social workers, therapists, college counselors, etc.

The third component of the circle of support is parental involvement. Parental involvement, which largely ties into the perceived risk factor of family stress, was heavily discussed during the interviews. All of those interviewed perceived a correlation between increased involvement in school functions by a parent and lower engagement in risky behaviors by the student. Support from the parents often came in the form of participating in school-wide parent-student association meetings or other parental involvement events. These events give parents the chance to give their input about issues concerning their students, as well as provide support for new social and emotional programs. Parents, like the teachers, often act as the first line of defense against risky behaviors. When parents voice concerns to the administration or counselors of the school, they can refer the students to external supports that may prevent substance or alcohol use. In many of the tertiary prevention programs for students with substance and alcohol misuse problems, there is a parental component. Involving the whole family was seen as a predictive factor for relapse prevention by means of increasing the student's network of support.

As high parental involvement was seen as protective against risky behaviors, low parental involvement was seen as correlative with risky behaviors. The service providers often stated that the lack of involvement by parents in the student's education and social and emotional wellbeing was a risk factor for students developing problem behaviors. Many of the households were single parent, and for the low-income households, financial stress required parents to work more than one job. These many responsibilities prevented parents from being present to observe their child exhibiting risky behaviors and participating in school events to allow them to be involved in their child's educational experience. Although the schools often try to make parent events more accessible for the busiest of parents, many still cannot attend.

Financial barriers

The theme of financial barriers consisted of the codes "school barriers: financial" and "disproportionate distribution of resources." Financial school barriers included barriers that prevented students from accessing preventative or other resources. Many of the students were unable to receive ongoing therapy when necessary due to being uninsured or unable to pay for services. The School Mental Health Centers provide in-school based therapy on a sliding payment scale, making it much more accessible for low-income students. However, this program has limited funding and eventually will end, leaving the students without this resource. Similarly, Phoenix House, which was often stated as a valuable resource for students with alcohol or substance use problems, lost funding for continuing to be in the schools directly. Most of the service providers stated that the availability of more funding for social support programs for the students and their families would help increase better outcomes for students in all domains of life.

Instances of disproportionate distribution of resources were identified any time a service provider mentioned presence or lack of a resource that was usually absent or present at other schools in the district. One strong instance of this was that School A was able to provide wellness services to the majority of their population. The principal of School A allocated funds to employing staff specifically focused on wellness. This allocation was not possible in the other three schools. Schools B, C, and D probably were not able to spare the resources from the other services they offer for the high prevalence of low-income students they educate. Many of their resources were allocated to social services that helped families and students obtain their basic daily needs. The service provider at School B mentioned that there was not a wide variety of educational programming available at the school for students. Students do not have the opportunity to take classes that might interest them more in addition to their required classes. The service provider at School D cited the many community partnerships and supports involved in their student services. These external supports make many of their programs possible for their low-income students without taking away some of the basic social services they need. The service provider was able to enlist the help of many interns that could learn from this experience in the school, as well as provide services to the students by running groups or counseling sessions. School D also had a teacher specifically for their freshman SEL classes. A teacher allocated specifically to this subject was not available at any other school.

School Philosophy

The final theme that emerged from the interviews was school philosophy. The codes included in this theme are "counseling beliefs" and "school values." Counseling beliefs refers to statements by the service providers about their approach to providing supportive services for their students. The service provider from School A focused on using prevention curriculum from

universities to reach their students and teaching students adaptive behavioral skills. The service provider from School B focused on making sure the faculty and staff of the school saw more to student's maladaptive behavior than just being defiant. They wished that teachers were more trauma-informed, so that they could understand more of the reasons behind risky behavior. The service provider at School C strongly believed that one-on-one counseling was important for reaching students, as well as providing wrap-around resources for the families. While collaborating with the family, this provider also believed it was important to understand whether familial stress was the cause of risky behavior in students. The service provider at School D believed that cooperation of members on the CST was incredibly important in delivering effective, evidence-based interventions to students in need of them.

These counseling beliefs were often, but not always, in accordance with the service providers' perceived school's values. The purported values of School A were teaching students to have a proper school-life balance and high academic achievement, which was similar to the priorities of the counselors. The service provider at School B perceived the main value of the school was high academic achievement, which was not in agreement with the counseling beliefs that supported more social and emotional support for the students by the teachers. The perceived main values of School C were building relationships between students and teachers, maintaining good health, and providing social and emotional support. All of these values were priorities for the counseling team directly in their office or indirectly in communication with the faculty and staff. The service provider at School D perceived the main value of the school was social and emotional support. The counseling beliefs of this school as well as the programs offered by the counseling office supported this value very strongly.

Demographic Information Analysis

In an analysis of statistical information available on the AISD website and the Start Class research database for public schools, connections between the school's values and various statistics were examined. This analysis was done to examine whether the school's priorities were effectively carried out as reflected by the data. Statistical information was collected for percent economically disadvantaged, student to teacher ratio, out-of-school suspension percentage, in-school suspension percentage, STARR passing rates percentage, graduation rate, and student to counselor ratio. This information is summarized for each school in Table 1. School A's counselor perceived their school's values to be helping students achieve a good school-life balance and excel academically. The high STARR passing rates (100%) and graduation rates (99%) reflect the value of academic achievement well. The relatively low student counselor ratio (243:1) compared to the other three schools (505:1, 279:1, 428:1) reflects the value of helping students achieve a good school-life balance. The low rates of in-school (1.6%) and out-of-school suspension (0.2%), and low percentage of economically disadvantaged students (7%) may reflect greater resources and/or much fewer risk factors for problematic behavior (e.g., financial or family stress).

School B's counselor perceived the most important value for the school to be academic achievement. The efficacy of the school at carrying out this value is reflected in the higher graduation rate of students (82%), but not in the low STARR passing rate (63%). The high school's high student to counselor ratios (505:1) and relatively high out-of-school (20%) and in-school suspension (15.40%) rates, and high percentage of economically disadvantaged students (85.2%) may reflect difficulty in achieving the school value of social and emotional support and

school-life balance due to lack of financial resources as well as the presence of more stressors or risk factors among the student population.

School C's counselor perceived the values of the school to be building relationships between the students and teachers, and social and emotional support. This value is reflected in the low student to counselor ratio (279:1). The efficacy of carrying out this value is also reflected in the lower out-of-school suspension rate (9%), but not in the in-school suspension rate (18%). This discrepancy may be due to the use of in-school suspension facilities in rehabilitating poor behavior, a form of social and emotional support, according to the information collected by the Child Study Team ("In School Suspension," n.d.). Thus, this discrepancy in itself may be reflective of the value of social and emotional support. The rate of economically disadvantaged students (66.6%) may also impact these statistics as indicative of more life stressors that can be risk factors. Thus this school's approach to social and emotional support may be making an impact on behavior in the fact of the disproportionate amount of stressors likely present in the student body. In spite of this, graduation and STARR passing rates are relatively low (79% and 63%; respectively).

School D's service provider perceived the school's main value to be social and emotional support. The efficacy of realizing this value is reflected in the lower student to counselor ratio (428:1) and lower out-of-school (6.1%) and in-school suspension (5.7%) rates. Although this school also has a comparative level of economically disadvantaged students (62.5%) and does not have a main priority of academic achievement, the STARR passing (75%) and graduation rates (84%) are higher than the other two schools that are also majority economically disadvantaged. This finding and those from School C points to a possibility of prioritizing social

and emotional support as a protective factor, decreasing rates of maladaptive behavior and, to some extent, buffering negative effects on achievement.

Summary of the Results

In summary, schools have many secondary and tertiary prevention resources that they can provide to their students. Many of these resources involve development of social skills and life skills, supplying emotional support, and providing resources to meet the student's basic needs. While these services are in accordance with the literature as efficacious ways for delivering prevention education to adolescents, they are often employed after the student has begun use and when the members of their circle of support notice negative changes in their behavior. There is a lack of primary prevention resources disseminated to students in a school-wide setting. An increase in the amount of these interventions may prevent initiation of use by providing students with adaptive coping skills as an alternative to self-medication with substances and alcohol.

The circle of support established for the students of teachers, parents, and administrators is a great resource for delivering interventions to students as well as early detection for risky behaviors. This support network works together to address all of the student's needs as well as mitigate the family and financial stressors that may impact a student's behavior. While the goal of social and emotional well being for the student is a priority for all three of these players, they sometimes lack the financial resources to carry out these goals. The limited funding in schools for social support services and external programs presents a barrier to delivering prevention education to students.

In most cases, the priorities of the service provider and the values of the school are in agreement, which makes the school conducive to delivering supportive services to the students. However, the school often values achievement more than social and emotional support, which

can push reception of these services to the wayside while focusing the majority of their resources on academic performance. Based on these results, recommendations to implement preventative education for substance and alcohol use are constructed.

In general, the schools that valued school-life balance and social and emotional support had lower out-of-school and in-school suspension rates (Schools A, C, & D). These schools also had lower counselor-to-student ratios. School A valued achievement and had the highest graduation and STARR passing rates, but also had the lowest percentage of economically disadvantaged students. School B also valued achievement, but had over 80% economically disadvantaged students. The graduation rate was 17% lower than School A. School D valued social and emotional support most, but had the second highest graduation rate (84%), and also had a high percentage of economically disadvantaged students (62.5%). This finding suggests that valuing social and emotional support in economically disadvantaged schools can have an indirect effect of improving in-school (5.7%) and out-of-school suspension rates (6.1%).

PART III: RECOMMENDATIONS

Recommendations in this section are based on a combination of findings from the literature review and qualitative analysis of the interviews. The major findings this section will focus on are the lack of primary prevention resources and the excess of secondary prevention resources, the necessity of social support services to combat perceived risk factors, the need to increase parental involvement, and the ways of addressing financial barriers to prevention programming. All of these recommendations will take into account the context of the circle of support for the student composed of the teachers, administration, and parents. A reason to use that was not addressed by the service providers, peer influence, will also be examined.

Recommendation 1: Greater focus on primary prevention

Based on information gathered about the protective resources available for students at each school, there are many secondary and tertiary prevention resources available to students who have already initiated substance or alcohol use. Some of the most popular resources in use are the AISD Child Study Team (CST), Communities in Schools (CIS), the Student Mental Health Centers (SMHC), and the Alternative Learning Center (ALC). Each of these resources provides incredible support for students that are struggling with not only substance and alcohol use, but also any type of risky behavior.

The similarities between all of these programs include the focus on mental health, social and emotional support, and creating a support network for the student. These qualities are all part of what usually makes prevention programs successful (Hansen et al., 2007). However, they may be more successful if introduced before initiation or as an early intervention. Most of the use of these resources occurs after a problem becomes extreme enough to become noticeable to the faculty and staff of the school. It is advantageous to address risk factors before they lead to substance and alcohol use because of the lasting effects early initiation can produce. There is

evidence for early initiation in adolescence correlating with later misuse in adulthood. Griffin and Botvin (2010) also found correlations between early initiation and later negative social, behavioral, and health outcomes. These outcomes can lead to physical and mental health problems, occupational and familial problems, and maladaptive behaviors (Griffin & Botvin, 2010). Some of these problems are already associated with early use and contribute to the reasons why an adolescent may start to use. The four secondary and tertiary prevention programs mentioned earlier are all meant to combat these problems that arise after use.

Shifting these resources to a primary prevention framework can help eliminate even more suffering and continued use in the same way that the supportive secondary and tertiary prevention programs have. The Child Study Team prevention plan attempts to include universal primary prevention in all schools in the mode of implementing "a positive and culturally responsive school climate," "SEL curriculum," and "communication with families" ("Austin ISD Child Study System," n.d.). These foci have shown to be effective strategies in preventing risky behavior. Many of the schools have addressed the importance of a culturally responsive and positive school environment by implementing Positive Behavioral Interventions & Supports (PBIS). PBIS, as discussed above, is an important strategy of early intervention. Faculty and staff can use their preexisting and positive relationships with students to intervene when they observe risky behaviors in a student. While components of this program are mostly used to detect visible problems, they can also be used to provide primary prevention education to a more willing audience.

Recommendation 2: Continued focus on "circle of support" for students

In a literature review of studies focusing on the effect of teacher-student relationships on school engagement and achievement, Roorda, Koomen, Split, & Oort (2011) found that positive

teacher-student relationships correlated with higher levels of engagement and achievement, while negative teacher-student relationships correlated with lower levels of engagement and achievement. Positive relationships had a more favorable effect on engagement and achievement in high schools compared to lower grade levels (Roorda, Koomen, Spilt, & Oort, 2011). Freeman et al. found that in 37 high schools that implemented PBIS, there was a positive association between PBIS implementation and positive behavior and attendance outcomes in schools that implemented the program with high fidelity (Freeman et al., 2016). PBIS techniques are in agreement with these findings in that they focus on rewarding positive behavior, instead of punishing negative behavior. The primary prevention aspect of PBIS is for the teacher to establish behavioral expectations and reward students when those are met ("Research," n.d.). Since teachers play a big role in this system, teacher buy-in and support from the administration is really important in maintaining PBIS and other prevention programs. Many of the service providers cited this as an important factor in being able to do their job most effectively. There is evidence that important factors for maintaining program implementation and high fidelity are encouragement from the principal and cooperation and buy-in from the teachers (Rohrbach et al., 1993; White, 2012).

Recommendation 3: Consider universal curriculum to increase reach

While these schools do a great and efficacious job of building relationships and encouraging positive behavior, these relationships can be used to deliver a more universal prevention curriculum to a more willing audience. The higher levels of engagement shown by Roorda et al. in positive teacher-student relationships highlight an important avenue for delivering prevention education (Roorda et al., 2011). This trusting and positive relationship provides the opportunity for students to engage with prevention education on a more personal

and impactful level. All of the service providers interviewed reported that teacher buy-in was an important component and delivering social and emotional support to their students. These service providers explained the importance of teachers that were willing to build positive relationships with students, as well as detect risky behaviors and provide early intervention. Using teachers to deliver curriculum on social skills and supports, resistance skills, and adaptive coping skills in the classroom may expand the impact of social and emotional supports. Botvin (2000) and Hansen, Dusenbury, Bishop, & Derzon (2007) identified the instruction of these skills to be effective in preventing from students initiating substance use (Botvin, 2000; Hansen et al., 2007). Because teachers are also familiar with the culture of the school environment and its students, they are able to deliver this prevention education with cultural considerations that would make students more receptive. Hecht and Krieger (2006) identified cultural considerations as an important factor for the success of prevention education (Hecht & Krieger, 2006).

The AISD Child Study System model suggests the classroom as a primary prevention setting for delivering SEL curriculum to teach students problem-solving and behavioral skills ("Austin ISD Child Study System," n.d.). The five main competencies of SEL are self-awareness, self-management, social awareness, relationship skills, and responsible decision-making ("Core SEL Competencies," n.d.). These skills coincide with skills that have been shown to correlate with lower rates of substance and alcohol use in adolescents (Botvin et al., 1995; Botvin, 2000; Foxcroft & Tsertsvadze, 2012; Hansen et al., 2007; Hecht & Krieger, 2006; Spoth et al., 2014). SEL curriculum has shown a significant effect on improving social and emotional learning skills, attitudes, positive social behavior, conduct problems, emotional distress, and academic performance (Durlak et al., 2011). The interviewed service providers perceived many

of these outcomes to be important for increasing social and emotional wellbeing and decreasing risky behaviors.

While the implementation of the core competencies of SEL is promoted school-wide and in one-on-one sessions in most of the schools included in this analysis, implementation of these values more on a classroom level and school-wide level could spread their effect. School D delivered SEL curriculum in a specific SEL class required for all freshmen. School A delivered SEL curriculum intermittently during core subject classes and mostly in school-wide presentations. These models incorporate many aspects that have shown to be important for preventing substance and alcohol use, such as teacher buy-in, primary prevention, positive teacher-student relationships, and education on social and emotional skills. In a review conducted by CASEL (2015), there were five effective SEL programs identified, all of which improved academic performance ("2015 CASEL Guide: Effective Social and Emotional Learning Programs—Middle and High School Edition," 2015). One of these programs, the "Facing History and Ourselves" program, also improved SEL skills and teaching practices. This program was delivered over 2-5 days, and had onsite and offsite support, as well as a high fidelity rating. The majority of this program was disseminated in the Social Studies classroom and school-wide settings. Another one of these effective programs, the "Reading Apprenticeship" program, reduced problem behaviors and improved teaching practices. This program was delivered for 7-10 days of 12-14 months, mostly in the Reading, Social Studies, and Science classrooms and secondarily in school-wide settings. This program also had onsite and offsite support, as well as strong support from the administration and a high fidelity rate ("2015 CASEL Guide: Effective Social and Emotional Learning Programs—Middle and High School Edition," 2015). Among these effective SEL programs and many of the successful

programs examined in the literature review, the most effective programs were implemented in the classroom setting and secondarily in the school-wide setting (Botvin et al., 1995; Duryea et al., 1984; Orlando et al., 2005; Spoth et al., 2014).

Not only have these large scale methods of dissemination shown to be effective, they are also much more efficient than delivering prevention education on a one-on-one basis, which was the norm for many of the schools examined in this analysis. One service provider can reach 20 students in a classroom presentation, or 800 in a school-wide presentation in the same amount of time it can take them to have a one-on-one session with a student. Evaluations of SEL interventions in school indicate they are cost-effective, result in better health outcomes, and reduce criminal justice system expenditure (Levin & Chisholm, 2016). According to the service providers that were interviewed, much of their day is spent delivering one-on-one prevention and intervention services to students. This demand for their services takes up most of their day and leaves little time for developing school-wide prevention programs. Shifting the method of dissemination from one-on-one delivery to school-wide or classroom-based delivery can alleviate some of the demand for one-on-one services. Teaching students the SEL core competencies can increase their adaptive coping skills and hopefully prevent their need for one-on-one intervention. Service providers indicate that many times students seek out or are referred to one-on-one services when a visible problem arises. In most cases of substance use, initiation has already begun. By introducing prevention programs that target social, emotional, and coping skills that can be used to prevent substance use as a way to self-medicate, use of these services as a preventative resource would decrease and these scarce resources could be saved for students who develop unavoidable mental health concerns.

School D's SEL class is fairly new, but the low rates of in-school (5.70%) and out-of-school suspension (6.10%) are promising. The similarity of this intervention to the effective SEL programs also supports its efficacy. School A's school-wide prevention presentations are also similar to the effective SEL interventions, and this school reports low in-school (1.60%) and out-of-school suspension (0.2%) rates. A possible factor accounting for this success could be the low percentage of economically disadvantaged students at School A (7%). However, School D still has this success with a majority economically disadvantaged population (62.50%).

Recommendation 4: Further attention to assistance with meeting basic needs

While the SEL curriculum includes teaching students important adaptive coping skills, they often cannot address the other perceived risk factors of financial and family stress. These unaddressed risk factors highlight the importance of maintaining the social services available, particularly, at the high schools with a majority economically disadvantaged population (Schools B, C, & D). Wills, Sandy, Yaeger, Cleary, & Shinar (2011) reported that stressful life events correlated with engagement in initial substance use and growth of further substance use in adolescence. In addition, if adolescents perceive their environment, including their family and financial status, as aversive, they may have higher stress reactivity (Wills, Sandy, Yaeger, Cleary, & Shinar, 2001). This sensitivity can lead to maladaptive coping methods, such as substance use (Hoffmann, 2016). Providing social services to alleviate some financial and family stress from students could have the indirect effect of preventing maladaptive coping that often leads to substance use. Many schools in this study have family support specialists, parent support specialists, social service specialists, and childcare supports to name a few. The service providers employed in these positions have the responsibility of ensuring each student's basic needs are met, whether it be housing, food, program referrals, etc. These kinds of supports work to

alleviate the family and financial stressor risk factors for risky behaviors. The schools with majority economically disadvantaged populations stated that the service providers were often overloaded with the amount of cases they received each school year. If social services cannot be expanded in these schools, at the very least they should be maintained. In the event that social services resources are not enough to alleviate stressful situations from a student's life, resources to teach adaptive coping skills should be introduced. Teaching adaptive coping methods can give adolescents options other than substance use or other maladaptive coping behaviors to deal with their life stressors. This type of education can be delivered on the primary prevention level, along with the SEL curriculum as discussed earlier.

Recommendation 5: Parental outreach

By supporting the family with social services, parents become more involved in the school as a recipient of services. Families in need are often able to build relationships with these service providers who also may work with their children on occasion. School C and School D both described how closely they work with parents to cover their basic needs, and how the school becomes a place of comfort for parents. Involvement of parents in specific student-related behavior concerns was still perceived as low. A reason for this low involvement was that many of these parents ran single-parent households and often had to work more than one job to support their family. These situations contributed to the student's perceived risk factors of financial and family stressors, as they often had to take on jobs or childcare roles in their own household in addition to school. School A had the highest level of perceived parental involvement, particularly during parent and student association meetings. Parents were actively involved in giving service providers feedback about what type of concerns they had about their children. As a result, schools held sessions about wellness and school-life balance for students and parents to attend.

These events opened communication between parents and students about supports students needed to be successful.

While this type of involvement may not be feasible for Schools B, C, and D, there are other ways in which parents can become more involved in their student's schooling and social and emotional wellbeing. The INVEST program delivered by ALC as a secondary intervention for drug use incorporates a family component. This family component involves parents in their student's circle of support to better understand the reasons behind use. This program also focuses on increasing effective communications and positive relationships between parents and their students ("INVEST / Positive Families | AISD Alternative Learning Center," n.d.). In the event that a parent is present in their student's life, their participation in primary prevention programs as well as monitoring their student for disruptions in social and emotional wellbeing may serve as a good tool for preventing risky behaviors. Spoth et al. observed that using classroom-based Life Skills Training and the Strengthening Families Program in combination produced a relative reduction in rates of substance, cigarette, and alcohol use (Spoth et al., 2014). The Strengthening Families Program focuses on teaching parents how to have positive interactions with their children, as well as communicate and discipline effectively ("Strenghtening Families Program," n.d.-a). In addition, this program teaches students resilience, problem solving, peer resistance, coping skills, and how to communicate effectively in all of their relationships ("Strenghtening Families Program," n.d.-a). The foci of this program align with evidence-based recommendations provided by NIDA on substance use prevention programs ("Prevention Principles," n.d.). These principles included in the INVEST program would be even more effective preventing initiation of use, where they are currently implemented to prevent continued use. Making this type of skill training accessible to busy parents is also a challenge. The

Strengthening Families Program combated this barrier by offering an option to cheaply purchase a DVD including the prevention material ("Strenghtening Families Program," n.d.-b). Increasing parental involvement by making prevention materials more accessible to parents could complete the student's circle of support and help alleviate some of the family stressors that may be predictive of future substance use.

Recommendation 6: Increased attention to peer influence.

One risk factor that was not addressed by most of the service providers was peer influence. In several of the studies included in this literature review, peer influence was a strong risk factor for substance use initiation (Allen et al., 2014; Botvin et al., 1995; Duryea et al., 1984; Hansen et al., 2007; Orlando et al., 2005). While many of the service providers interviewed mentioned the influence of peers as a risk factor for substance use, only the service provider from School B mentioned it a significant amount of times (>4). Peer influence and resistance skills are not emphasized in the SEL core competencies, but given the evidence that peer influence is a significant risk factor, it should be addressed more. While teaching the core competency of "social awareness," educators should highlight empathizing with others, but also recognize when peer influence can be negative. Resistance skills were also a part of many successful programs that allowed student's to maintain their self-efficacy in the face of negative peer influence (Botvin et al., 1995; Botvin, 2000; Duryea et al., 1984; Hansen et al., 2007; Spoth et al., 2014).

Recommendation 7: Thoughtful review of current distribution of resources

A commonly perceived obstacle to preventing risky behaviors in schools was the discontinuation or unavailability of prevention resources due to financial barriers. Service providers identified that the number of students who request their services often overwhelms the

counseling staff and ATCIC therapists. Service providers mentioned that they are unable to provide as supportive a response to students due to the lack of resources. Ways they identified to mitigate this issue were to request more resources for primary prevention and related external programs and social services.

District-wide, the balance of the general fund, or all financial resources except for those accounted for in another fund, has increased from $270.6 million in 2016 to $283.1 million in 2017 ("FY 2017 AUSTIN Independent School District OFFICIAL BUDGET," 2016). In addition to the general fund, AISD receives Title I funding from a federal grant. Title I grants provide additional funding for schools with a majority of students from low-income families. ("FY 2017 AUSTIN Independent School District OFFICIAL BUDGET," 2016). Title I grant funding has decreased from $28,484,297 in 2016 to $25,669,294 in 2017. These two sources of funding are further split up and allocated to specific programs within the district.

Within the general fund, certain allotments of money are reserved for "non-campus departments". These funds are reserved for specific programs that are "key performance indicators" for students. Table 2 outlines the funding allocated to the following programs: 1) learning support services (CST and eCST), 2) guidance and counseling, 3) social and emotional learning (SEL), and 4) school, family, and community education. These specific department budgets were examined to determine the amount of funding spent on programs discussed during the interviews and recommendations. The budget allocations reflect findings from the qualitative interviews. Many of the resources are allocated for learning support services, which focuses on CST, social worker and CST member funds, and secondary interventions ($4,763,724). Efficiency of this program is evaluated by utilization of eCST, which is very high (99%). However the effectiveness of this program, measured by how eCST goals are aligned

with implementation recommendations (specific, measureable, attainable, results-based, and time-bound), are not as effective (69%) ("FY 2017 AUSTIN Independent School District OFFICIAL BUDGET," 2016). Guidance and counseling resources, which includes the funds for salaries of counselors and other service providers whose primary method of intervention is one-on-one or small group intervention, is $383,337. Funds reserved for school, family, and community education are relatively high ($3,817,914). This amount includes resources for support services and family programs that can mitigate family and financial risk factors for risky behaviors. This department has a goal of increasing parental involvement and maintaining relationships with organizations meant to provide support services for students.

Fewer resources are spent on social and emotional learning (SEL), which is a source of primary prevention with the potential for universal reach ($242,963). There is much less funding for this program, probably contributing to the 76% of SEL schools that receive adequate coaching to promote SEL, and the 77% of SEL schools that receive enough materials and curricular resources to promote SEL adequately. The efficacy of SEL curriculum in SEL skills, preventing problem behaviors, and improving teaching practices has been supported in cases where there is high program fidelity and support for implementation ("2015 CASEL Guide: Effective Social and Emotional Learning Programs—Middle and High School Edition," 2015).

In addition to the departments having different allocations of funds, each school has a different distribution of funds per student. Schools B, C, and D appear to spend more money per pupil than School A. This difference in cost per pupil can be accounted for the low number of students at Schools B and C, which redistributes the base costs for administration and building maintenance to a smaller set of students. School D spends more money per student and has a larger student population. This larger amount of money per pupil can be attributed to the higher

amount needed for “supplies and materials” and “other expenses” for the student population compared to the other schools (“FY 2017 AUSTIN Independent School District OFFICIAL BUDGET,” 2016) (See Table 3).While the district distributes funds specifically to these departments, the principals of each school have some say in where the money within the counseling and social services department is spent. For example, School A’s principal chose to reserve funds for the salaries of two wellness counselors. These wellness counselors are an excellent source of primary prevention. The other schools did not distribute their funds towards wellness counselors not because of choice, but out of necessity. Schools B, C, and D had a majority of students from low-income families, and so they chose to use these funds for more social support services. This difference is reflected in the absence of social support specialists at School A, and the presence of them at Schools B, C, and D. School D’s principal employs a full-time social worker, but at the loss of a teaching position.

While it may be unrealistic to provide extra funds to these low-income schools, they can redistribute the money already in their budgets to be more effectively put to use. One option is to shift funds to provide more supportive resources for SEL implementation could increase program implementation and fidelity, and correlate with successful rates of improvement in SEL skills, preventing problem behaviors, and improving teaching practices. Thus, one option is to shift some resources from the three other areas to social and emotional learning in order to increase primary prevention efforts known to be associated with preventing substance and alcohol use, while maintaining funds for social support services.

Another option is to shift the focus of the learning support services department to primary prevention as opposed to the secondary prevention of CST (“FY 2017 AUSTIN Independent School District OFFICIAL BUDGET,” 2016). For example, administration of schools B, C, and

D could encourage for the guidance and counseling and learning support services staff to focus on more primary prevention and wider reach dissemination programs instead of secondary and one-on-one interventions. Schools C and D's service providers talked extensively about their use of the CST system to monitor students that were exhibiting problem behaviors. Shifting time spent on the CST portion of their prevention measures to their SEL curriculum could help mitigate risky behaviors and use of secondary (CST) and tertiary resources (ATCIC school-based therapist and ALC). Furthermore, a shift to a primary prevention focus might naturally bring greater need for dissemination of social and emotional learning curriculum, and this need would motivate improvements in curriculum development, materials, and instructor coaching.

School D has already started this shift with the creation of their SEL class. This primary prevention program is fairly new, but according to the perceptions of the service provider, has already made a difference in preventing risky behaviors and teaching adaptive coping strategies. This effect is also reflected in their relatively low in-school (5.7%) and out-of-school (6.1%) suspension rates compared to the other low-income high schools surveyed. So not only is pushing for redistribution of funds at the district level important, but also is informing principals on how they can reserve funds within the counseling department for more primary prevention resources, instead of secondary prevention resources.

There may also be resources available to AISD that can be used to increase prevention programs that currently have gone unused by the state. The Strategic Prevention Framework (SPF) is a government program that provides funding for states that wish to implement programs for substance use and misuse ("Grantee Stories, Tools, and Other Resources | SAMHSA," n.d.). Flewelling et al. (2009) report that prior to the SPF, there was little data on predictors of effective programs and common epidemiologic factors of at-risk populations for alcohol and

substance use. They report that this model has a sound strategy of using the current data on substance and alcohol use to develop further resources in better service of implementing more effective programs. The framework currently focuses on "1) identifying statewide priorities for substance abuse prevention, 2) informing resource allocation decisions, 3) monitoring state and local trends in substance abuse and related consequences, and 4) evaluating state and local prevention efforts" (Flewelling et al., 2009). The two guiding principles of the SPF also combat the problems faced by researchers previously in conducting research in schools and implementing the correct prevention program. The Strategic Prevention Framework is guided by cultural competence and sustainability. All of the programs they choose to implement must be vetted for cultural agreement of the content with the population it applies to and must be instituted in a way that achieves long-term results. By applying this model, the programs implemented in the schools go through a process of assessing needs, building capacity, planning, implementing, and evaluating. This way, evidence-based prevention programs could be more widely implemented because of the newly developed data, self-expanding the prevention program's reach and evidence base.

The Substance Abuse and Mental Health Services Administration (SAMHSA) provides Strategic Prevention Framework State Incentive Grants to states that wish to implement prevention programs to reduce the onset of substance and alcohol use. This grant can go towards building infrastructure for delivering prevention services to high schools across Texas. To upkeep the establishment of prevention programs on the state level, the state can apply for a Substance Abuse Prevention and Treatment Block Grant ("Substance Abuse Prevention and Treatment Block Grant," 2014). All programs implemented under these grants add their efficacy results to a national database in order to establish a source of effective, evidence-based programs.

According to the Texas Department of State Health Services, the State of Texas applied for 2016-2017 Substance Abuse Prevention and Treatment Block Grant (Dougherty, 2015). The current Draft Plan for the block grant includes issuing $7.8 million for the expansion of youth universal-based prevention programs (Dougherty, 2015). Based on the evidence I have provided above, the Texas State Legislature could effectively use this money to prevent substance and alcohol use by funding school-based prevention programs in high schools across Texas under the SPF model. Implementation in schools will reach more adolescents at the most high-risk age for initiation. For the 2015-2016 fiscal year, the state of Texas used $160,013,322 of their previous block grant for substance use prevention. Of these funds, only $475,000, or 0.3%, were used for substance and alcohol use prevention programs in schools ("SAMHSA - Fiscal Year 2015 Discretionary Funds," 2015). In 2014, 64.3% of twelfth graders had used alcohol and 38.7% of twelfth graders had used illicit drugs (Public Policy Research Institute, 2014). In 2016, these numbers increased to 71.8% of twelfth graders using alcohol and 41.8% of twelfth graders using illicit drugs (Public Policy Research Institute, 2016). If we increase the amount of money allocated to school prevention programs for the current fiscal year, perhaps we would see a significant decrease in substance and alcohol use.

The most recent estimate of economic costs of substance and alcohol misuse in the state of Texas was $25.9 billion for the year 2000 (Liu, 2002). The Substance Abuse Block Grant for the 2015-2016 year for the state of Texas is about 16% of this cost ("SAMHSA - Fiscal Year 2015 Discretionary Funds," 2015). If we were able to use this amount of money from the Substance Abuse Block Grant to target substance and alcohol use prevention in high-school students, this cost would be significantly decreased for the long-term. If the majority of the programs implemented under the Strategic Prevention Framework were successful in producing

long-term results, one of the main guiding principles of this model, then this could potentially save the state of Texas $25.9 billion in healthcare costs. This comes about to be about $1,244 annual savings per resident of Texas (Liu, 2002). According to the National Center on Addiction and Substance Abuse, 16.4% of the state of Texas' budget is spent on addiction. For every dollar of this amount, 2 cents go toward prevention and treatment, while 96 cents go towards paying for the consequences of addition ("State Spending Addiction | The National Center on Addiction and Substance Abuse," n.d.). This small percentage of money that goes towards prevention reflects the government's uncertainty of cost-efficacy in substance and alcohol use prevention programs (Caulkins, 1999). The evidence base of successful and unsuccessful prevention programs continues to grow promisingly. Investing in the prevention of substance and alcohol misuse could save the nation a ton of money and suffering.

Summary and Conclusions

The aim of this study was to gather information on the state of substance and alcohol use prevention programs among schools in AISD. While many holistic secondary prevention resources are available to students beginning to experience problem behaviors, often times they are left unequipped to cope adaptively in the first place. Some schools already had primary prevention programs in place to try to minimize their student's suffering through prevention efforts. However, not all schools were able to implement this breadth of programming due to lack of resources. A district-wide shift from focus on secondary prevention services to primary prevention services is not only cost-effective, but also evidence-based. Many successful and unsuccessful high school prevention programs were evaluated in the literature review section of this thesis. Findings from this review suggest that there are tested and proven methods to prevent long-term initiation in substance and alcohol use among high school students.

While primary prevention efforts can minimize alcohol and substance use initiation, it unfortunately cannot protect students from all of life's stressful events. In these instances, having a strong social services team at these schools is incredibly important. While familial stressors and financial stressors may not be avoidable, equipping students with the resources they need to alleviate this stress, as well as adaptive coping skills is the best kind of medicine one can provide. Evidence examined in the literature review suggests that these kinds of stressors can put young people at-risk for substance and alcohol use initiation. Having a strong support team to alleviate these stressors, as well as primary prevention programs that equip student's with the best coping skills is incredibly important in preparing students for whatever comes their way.

Funds in the AISD budget should reflect these priorities in order to best serve their student population. Spending resources on young people in incredibly formative times in their lives is the most effective way to improve the future. Investing in the future, the young people attending these high schools, can help save the nation a lot of money, but also can give them the skills to live healthier and more productive lives.

TABLES

Table 1

Statistics from Participant Schools					
	A	B	C	D	Texas average
% Economically disadvantaged	7%	85.2%	66.6%	62.5%	58.70%
Student: Teacher Ratio	16:1	13:1	13:1	17:1	13.6:01
Out-of-school suspension	0.2%	20%	9%	6.1%	4.50%
In-School suspension	1.6%	15.4%	18%	5.7%	12.80%
STARR passing rates (all subjects)	100%	63%	63%	75%	79.00%
Graduation Rate	99%	82%	79%	84%	88%
Student: Counselor Ratio	243:1	505:1	279:1	428:1	295:1
("Austin ISD," n.d., "StartClass | A Research Engine," n.d.)					

Table 2 ("FY 2017 AUSTIN Independent School District OFFICIAL BUDGET," 2016)

General Fund, Department Budgets, and KPIs						
Department	Cost	Services	Efficiency definition	Measure	Efficacy definition	Measure
Learning Support Services	$4,763,724	CST, professional development, social work services for students and families (as secondary intervention), community services coordination, tertiary interventions	Utilization of eCST	99%	SMART goals	69%
Guidance and Counseling	$383,337	Professional development, classroom guidance presentations, individual and group counseling, college and career planning	Students with continuous 4yr plan	81%		
SEL (Social and Emotional Learning)	$242,963	Development of resources for social and emotional learning, professional development, professional coaching for implementation of SEL, writing new SEL curriculum			SEL schools that receive adequate coaching and development support; SEL schools receiving adequate resources for curriculum development	76%; 76%
School, Family, and Community Education	$3,817,914	Promoting family involvement in learning, child care services for student parents, develop and maintain relationships with external support services organizations	Revenue from grants and facility use fees	$8,821,694	Number of students participating in programs that meet graduation and grade achievement goals	17,039 students

Table 3

School Budgets			
School	Overall funds	Cost per Student	School population range**
A	$5,026,990	$4,848	900-1100
B	$5,694,582	$9,818 *	500-700
C	$6,922,462	$7,778*	700-900
D	$14,763,157	$5,332	>2,000
* The higher amount spent on students, particularly at schools B and C can be accounted for by the smaller student populations (cost per student was calculated by dividing overall funds by the student population).			
** Population ranges were included instead of specific population numbers in order to preserve the confidentiality of the service providers and schools in this study.			
("FY 2017 AUSTIN Independent School District OFFICIAL BUDGET," 2016)			

APPENDICES

Appendix A: Interview Questions

1) Collect this information:
    a. Official title
    b. Years at school
    c. Years in profession
    d. Type of degree
2) What are the school's main priorities for its students? [Only for prompting: (For example: college preparation, life skills, social competency, character development, test scores, career development/future planning, etc.)]
    a. Why is this a priority? Specific reasons.
    b. Does this include health education?
3) What are the most common problems among your student body?
    a. Why do you think this is a problem?
    b. How have you observed this problem?
    c. Do you think any of these problems are related to or lead to substance and alcohol use?
4) What have you observed, if you have at all, regarding substance and alcohol use among students at your school?
    a. How have you come to this conclusion? Observations or surveys?
5) Why do you think some students use substances or drink alcohol?
    a. How have you come to this conclusion? Observations or surveys?
6) What, if any, substance or alcohol use prevention programs do you have in place?

   a. If yes, which one? What strategies do you use for health education?
   b. Other topics for prevention?
   c. How much, if at all, do you use the Social and Emotional Learning curriculum? Do you follow the health education curriculum provided by AISD? How do you adapt it to the population of your school?

7) What are some of the supports and resources you believe have made it possible to provide prevention services at your school?
   a. Where do they come from?
   b. Are they unlimited or will they end?
   c. Are there any strings attached with these resources?
   d. Do some of them go unused or are not useful?

8) How, if at all, are the parents involved in the school?
   a. How are the parents, if they are at all, involved in substance and alcohol use prevention education?
   b. Are they concerned about this problem?
   c. Do you try to educate the parents as well about this issue?
   d. What are their expectations for their students? Are parents' goals the same as the goals of the school?

9) What, if any, barriers to implementing these programs have you experienced?
   a. If you were able to overcome any of these barriers, how did you do it?
   b. What is the cause of these barriers? Are they worth overcoming? Have you thought of any solutions?

   c. If you had to choose what to prioritize as far as health education – what would you choose?

10) What (other) resources are available to students experiencing substance or alcohol related problems?
   a. Describe them in detail – specifically in school resources versus out of school resources.
   b. Intervention and prevention based?

11) Are there any resources you wish were available to your students experiencing substance and alcohol related problems that are not currently available?
   a. Describe them in detail

12) If a student came to you with concerns about substance or alcohol use, what would you do? How does that conversation go with them?
   a. If at all, are there any barriers of them talking to you? Do they have fear of consequences?

13) Reevaluation of priorities for the school?
   a. What do **you** think should be the school's priorities?

14) Is there anything else you would like to tell me about substance and alcohol use and prevention programs in your high school?
   a. Do you have any questions for me?

15) Can I follow up with you by email if I have more questions?

Appendix B: Codes and definitions

School values

- *School values school-life balance* – a statement or behavior indicating that a balance between school work, and other areas of the student's life being maintained in their students is important to the school
- *School values well-rounded citizens* – a statement or behaviors indicating that the ability of students to be flexible in many areas of life is important to the school
    - ex: character development, social competency, flexibility/adaptability
- *School values achievement* – a statement or behaviors indicating that academic achievement and/or test scores are important to the school
- *School values building relationships* – a statement or behavior indicating that building relationships specifically between members of the faculty/administration/staff/programs and students is important to the school
- *School values health* – a statement or a behavior indicating that physical health is important to the school
- *School values social and emotional support* – a statement or behavior indicating that mental health care is important to the school

Parent values

- *Parents value school-life balance* – a statement or behaviors indicating that a balance between school work and other areas of the student's life is important to parents
- *Parents value achievement* – a statement or behaviors indicating that academic achievement or test scores are important to parents

- *Parent values social and emotional support* – a statement or behavior indicating that parents value mental health care of their children

Student values

- *Student values achievement* – a statement or behaviors indicating that students value their education and want to succeed in terms of receiving a diploma, having high test scores, or excelling in the classroom

Prevention

- *Primary prevention* – identify instances and frequency of interventions that are targeted for before initiation of use
- *Secondary prevention* – identify instances and frequency of interventions that are targeted for after initiation of use, but before development of addiction
- *Tertiary prevention* – identify instances and frequency of interventions that are targeted for after development of addiction

Perceived Social Norms – statements indicating that counselors and/or students believe a situation (drug use) to be common or prevalent due to a specific condition

Stigma-based behaviors – perceptions of stereotypes/generalizations of why students use drugs or act in a certain way that fuel behaviors and actions taken by administrators or counselors

Method of dissemination

- *School wide* – mentions of disseminating interventions in a school wide setting
- *Group level* – mentions of disseminating interventions in a small group setting
- *Grade level* – mentions of disseminating interventions in a grade level setting
- *Classroom* – mentions of disseminating interventions in a classroom setting
- *One on one* – mentions of disseminating interventions in a one-on-one setting

Perceived student risk factors

- Stress and anxiety
    - *Home/family life* – stressors that exist in the home or within a family that may contribute to anxiety and stress in the student
    - *Academic life* – pressure on academic performance that may contribute to anxiety and stress in the student
    - *Social life* – stressors that exist among their peers at school that may contribute to anxiety and stress in the student
    - *Financial* – specific concerns about finances that may contribute to stress, anxiety, and poor school performance or poor health in the student
- *Accessibility of drugs* – a statement or behavior indicating the ease by which students can obtain drugs as increasing the risk for them using drugs

Reasons to use

- *Self medicate* – the mention of using of drugs to cope with or cover up a problem/stressor in other domains of the student's life; using unprescribed drugs to treat a physical or mental illness
- *Recreation* – the mention of using drugs to entertain themselves or experiment
- *Peer influence* – the mention of using drugs as a result of pressure or influence from other students in the school/peers of the student

School barriers

- Time/scheduling
    - *Time of the counselors* – statements or behaviors indicating that lack of time to adequately provide services to students is a barrier to delivering services

    - *Time of the student* – statements or behaviors indicating that lack of time for students to adequately receive services is a barrier to delivering services
    - *Time of the program* – statements or behaviors indicating that lack of time for programs to adequately deliver services is a barrier to students receiving services
- *Low parental involvement* – lack of parental support in areas where the school needs volunteers, resources, or input; lack of parental involvement/input in students home life, school life, etc.
- *Financial barriers* – mentions of lack of funding through the school or government and ending of funding from the school or government for prevention programs
- *State agency priorities and requirements* – any requirement from the district or state that constrains the ability to disseminate prevention education
- *Red tape* – statements or behaviors indicating the inability to set up a prevention program because of the lengthy process necessary to get it approved
- *Community disagreement* – lack of community support and approval for providing health/drug education
- *Breached confidentiality* – perceived fear of students disuse of counseling services or fully confiding in a counselor due to fear of confidentiality being broken
- *Long-term follow up care* – the inability of a student to receive long-term resources/support upon graduation from the school as a risk factor for engaging in drug use or other risky behaviors

School facilitators

- *Integration of health and academic education* – any instance of health and academic education being combined, or health education being taught in a formal academic setting

- *Teacher buy-in* – teacher support of and referral to counseling services
- *Student input* – students expressing what they need from the school to succeed
- *Resources* – any additional help that schools may receive to provide prevention education, prevention services, or counseling services to students
    - Develop own curriculum
    - External Grants
    - Outside programs
- *Parent involvement* – high parental involvement in the school or students education and/or health status
- *Student buy-in* – students normalizing the use of counseling services and feel comfortable and willing to use them as needed
- *Administration support* – cooperation on all levels of the school's faculty and staff with goals of prevention education and resources for students

Intervention for students who have initiated

- *Consequences* – disciplinary action or involvement of the administration in response to unacceptable behavior or drug use
- *Education* – psycho education, health education given to the student over the topic of drug use and effects
- *Provision of resources* – referral to outside resources from a counselor when in-school resources are not adequate for the student's needs
- *Therapy/counseling* – formal therapy techniques used by counselors or outside therapists to address the students needs

School expectations for students after graduation

- *College bound* – behaviors indicating the school expects its student population to move on to college after graduation
- *Work bound* – behaviors indicating the school expects its student population to enter the workforce after graduation

Disproportionate distribution of resources – unequal access to extra resources/job positions that aid in developing health education and providing prevention education

Social and Emotional Learning Curriculum (SEL) – mentions of use of the Social and Emotional Learning Curriculum as part of their education

Counseling beliefs – statements by the interviewee about how their beliefs influence the way they carry out their job tasks

Risk perception – statements indicating that students believe initiating in drug or alcohol use as low-risk for developing other problems

REFERENCES

2015 CASEL Guide: Effective Social and Emotional Learning Programs—Middle and High School Edition. (2015). CASEL.

About Us | Phoenix House. (n.d.). Retrieved April 1, 2017, from http://www.phoenixhouse.org/about/

About Us : Communities In Schools. (n.d.). Retrieved April 1, 2017, from https://www.communitiesinschools.org/about-us/

Adult Addiction - Warning Signs | The National Center on Addiction and Substance Abuse. (n.d.). Retrieved April 27, 2017, from https://www.centeronaddiction.org/addiction-prevention/adult-addiction#.WQE5vGTyuRs

Allen, J., Mohatt, G. V., Fok, C. C. T., Henry, D., Burkett, R., & Team, P. A. (2014). A Protective Factors Model for Alcohol Abuse and Suicide Prevention Among Alaska Native Youth. *American Journal of Community Psychology*, *54*(1–2), 125–139. https://doi.org/10.1007/s10464-014-9661-3

Alternative Learning Center. (n.d.). Retrieved March 27, 2017, from https://www.austinisd.org/schools/alternativelearningcenter

Applying the Strategic Prevention Framework (SPF) | SAMHSA. (n.d.). Retrieved October 22, 2016, from http://www.samhsa.gov/capt/applying-strategic-prevention-framework

Approaches. (n.d.). Retrieved December 3, 2016, from http://www.casel.org/what-is-sel/approaches/

Austin ISD. (n.d.). Retrieved April 27, 2017, from https://www.austinisd.org/

Austin ISD Child Study System. (n.d.). Retrieved March 27, 2017, from http://www.childstudysystem.org/

Botvin, G. J. (2000). Preventing drug abuse in schools: Social and competence enhancement approaches targeting individual-level etiologic factors. *Addictive Behaviors*, *25*(6), 887–897. https://doi.org/10.1016/S0306-4603(00)00119-2

Botvin, G. J., Baker, E., Dusenbury, L., Botvin, E. M., & Diaz, T. (1995). Long-term follow-up results of a randomized drug abuse prevention trial in a white middle-class population. *Journal of American Medical Association*, *273*(14), 1106–1112.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Brown, J. H., & Kreft, I. G. G. (1998). Introduction To the Special Issue: Zero Effects of Drug Prevention Programs: Issues and Solutions. *Evaluation Review*, *22*(1), 3–14. https://doi.org/10.1177/0193841X9802200101

Campbell-Heider, N., Tuttle, J., & Knapp, T. R. (2009). The Effect of Positive Adolescent Life Skills Training on Long Term Outcomes for High-Risk Teens: *Journal of Addictions Nursing*, *20*(1), 6–15. https://doi.org/10.1080/10884600802693165

CASEL. (n.d.). Retrieved April 27, 2017, from http://www.casel.org/

Caulkins, J. (1999). *An ounce of prevention, a pound of uncertainty: the cost-effectiveness of school-based drug prevention programs*. Santa Monica, CA: Rand.

Core SEL Competencies. (n.d.). Retrieved April 27, 2017, from http://www.casel.org/core-competencies/

D'Amico, E. J., & Fromme, K. (2002). Brief prevention for adolescent risk-taking behavior. *Addiction*, *97*(5), 563–574. https://doi.org/10.1046/j.1360-0443.2002.00115.x

Dougherty, C. (2015, August 5). 2016-2017 Block Grant Draft Plan with SAMHSA Strategic Initiative. Texas Department of State Health Services.

Durlak, J. A., Dymnicki, A. B., Taylor, R. D., Weissberg, R. P., & Schellinger, K. B. (2011). The Impact of Enhancing Students' Social and Emotional Learning: A Meta-Analysis of School-Based Universal Interventions. *Child Development*, *82*(1), 405–432.

Duryea, E., Mohr, P., Newman, I. M., & Martin, G. L. (1984). Six-month follow-up results of a preventive alcohol education intervention. *Journal of Drug Education*, *14*(2), 97.

Flewelling, R. L., Birckmayer, J., & Boothroyd, R. (2009). Developing a Data Resource to Support State Substance Abuse Prevention Planning: Approaches Used in Implementing CSAP's Strategic Prevention Framework. *Contemporary Drug Problems*, *36*(3–4), 387–407. https://doi.org/10.1177/009145090903600303

Foxcroft, D. R., & Tsertsvadze, A. (2012). Cochrane Review: Universal school-based prevention programs for alcohol misuse in young people. *Evidence-Based Child Health: A Cochrane Review Journal*, *7*(2), 450–575. https://doi.org/10.1002/ebch.1829

Freeman, J., Simonsen, B., McCoach, D. B., Sugai, G., Lombardi, A., & Horner, R. (2016). Relationship Between School-Wide Positive Behavior Interventions and Supports and Academic, Attendance, and Behavior Outcomes in High Schools. *Journal of Positive Behavior Interventions*, *18*(1), 41–51. https://doi.org/10.1177/1098300715580992

FY 2017 AUSTIN Independent School District OFFICIAL BUDGET. (2016, June 20). Austin Independent School District. Retrieved from https://www.austinisd.org/sites/default/files/dept/budget/docs/FY2017_Austin_ISD_Official.pdf

Goodstadt, M. S. (1983). Three Approaches to Alcohol Education. *Journal of Studies on Alcohol*, *44*(2), 362–380. https://doi.org/10.15288/jsa.1983.44.362

Grantee Stories, Tools, and Other Resources | SAMHSA. (n.d.). Retrieved October 22, 2016, from http://www.samhsa.gov/capt/tools-learning-resources

Griffin, K. W., & Botvin, G. J. (2010). Evidence-Based Interventions for Preventing Substance Use Disorders in Adolescents. *Child and Adolescent Psychiatric Clinics of North America*, *19*(3), 505–526. https://doi.org/10.1016/j.chc.2010.03.005

Handren, L. M., Donaldson, C. D., & Crano, W. D. (2016). Adolescent Alcohol Use: Protective and Predictive Parent, Peer, and Self-Related Factors. *Prevention Science*, *17*(7), 862–871. https://doi.org/10.1007/s11121-016-0695-7

Hansen, W. B., Dusenbury, L., Bishop, D., & Derzon, J. H. (2007). Substance abuse prevention program content: systematizing the classification of what programs target for change. *Health Education Research*, *22*(3), 351–360. https://doi.org/10.1093/her/cyl091

Hawkins, J. D., Graham, J. W., Maguin, E., Abbot, R., Hill, K. G., & Catalano, R. F. (1997). Exploring the Effects of Age of Alcohol Use Initiation and Psychosocial Risk Factors on Subsequent Alcohol Misuse. *Journal of Studies on Alcohol*, *58*(3), 280–290.

Health Education. (2017, February 20). Retrieved April 26, 2017, from https://www.austinisd.org/pe-health/health-education

Hecht, M. L., & Krieger, J. L. R. (2006). The Principle of Cultural Grounding in School-Based Substance Abuse Prevention The Drug Resistance Strategies Project. *Journal of Language and Social Psychology*, *25*(3), 301–319. https://doi.org/10.1177/0261927X06289476

Hoffmann, J. P. (2016). Cumulative Stress and Substance Use From Early Adolescence to Emerging Adulthood. *Journal of Drug Issues*, *46*(3), 267–288. https://doi.org/10.1177/0022042616638492

Implementation in AISD. (2017, March 5). Retrieved April 26, 2017, from https://www.austinisd.org/sel/implementation

In School Suspension. (n.d.). Retrieved April 6, 2017, from http://www.childstudysystem.org/in-school-suspension.html

INVEST / Positive Families | AISD Alternative Learning Center. (n.d.). Retrieved March 27, 2017, from http://aisdalc.org/invest-positive-families/

Krause, L., & Roth, E. (2015, December 10). Wernicke-Korsakoff Syndrome. Retrieved January 4, 2017, from http://www.healthline.com/health/wernicke-korsakoff-syndrome

LeNoue, S. R., & Riggs, P. D. (2016). Substance Abuse Prevention. *Child and Adolescent Psychiatric Clinics of North America*, *25*(2), 297–305. https://doi.org/10.1016/j.chc.2015.11.007

Levin, C., & Chisholm, D. (2016). Cost-Effectiveness and Affordability of Interventions, Policies, and Platforms for the Prevention and Treatment of Mental, Neurological, and Substance Use Disorders. In V. Patel, D. Chisholm, T. Dua, R. Laxminarayan, & M. E. Medina-Mora (Eds.), *Mental, Neurological, and Substance Use Disorders: Disease Control Priorities, Third Edition (Volume 4)*. Washington (DC): The International Bank for Reconstruction and Development / The World Bank. Retrieved from http://www.ncbi.nlm.nih.gov/books/NBK361929/

Liu, L. Y. (2002). *Economic Costs of Alcohol an Drug Abuse in Texas - 2000*. Austin, TX: Texas Commission on Alcohol and Drug Abuse. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.190.6199&rep=rep1&type=pdf

Medical Consequences of Drug Abuse. (2012, December 14). Retrieved January 4, 2017, from https://www.drugabuse.gov/related-topics/medical-consequences-drug-abuse

Merikangas, K. R., He, J., Burstein, M., Swanson, S. A., Avenevoli, S., Cui, L., … Swendsen, J. (2010). Lifetime Prevalence of Mental Disorders in US Adolescents: Results from the National Comorbidity Study-Adolescent Supplement (NCS-A). *Journal of the American Academy of Child and Adolescent Psychiatry*, *49*(10), 980–989. https://doi.org/10.1016/j.jaac.2010.05.017

Millea, S., Christian, C., Stojakovic, Z., & Rao, M. (2013). *Student Substance Use* (Child and Youth Behavioral Health). Austin, TX: Children's Optimal Health.

Mitchell, S. G., Gryczynski, J., Gonzales, A., Moseley, A., Peterson, T., O'Grady, K. E., & Schwartz, R. P. (2012). Screening, Brief Intervention, and Referral to Treatment (SBIRT) for Substance Use in a School-Based Program: Services and Outcomes: New Mexico SBIRT Initiative. *The American Journal on Addictions*, *21*, S5–S13. https://doi.org/10.1111/j.1521-0391.2012.00299.x

Monitoring the Future Study: Trends in Prevalence of Various Drugs. (n.d.). Retrieved November 26, 2016, from https://www.drugabuse.gov/trends-statistics/monitoring-future/monitoring-future-study-trends-in-prevalence-various-drugs

Newman, I. M., Anderson, C. S., & Farrell, K. A. (1992). Role rehearsal and efficacy: two 15-month evaluations of a ninth-grade alcohol education program. *Journal of Drug Education*, *22*(1), 55.

Orlando, M., Ellickson, P. L., McCaffrey, D. F., & Longshore, D. L. (2005). Mediation Analysis of a School-Based Drug Prevention Program: Effects of Project ALERT. *Prevention Science*, *6*(1), 35–46. https://doi.org/10.1007/s11121-005-1251-z

Paglia, A., & Room, R. (1999). Preventing Substance Use Problems Among Youth: A Literature Review and Recommendations. *Journal of Primary Prevention*, *20*(1), 3–50. https://doi.org/10.1023/A:1021302302085

Prevention Principles. (n.d.). Retrieved April 19, 2017, from https://www.drugabuse.gov/publications/preventing-drug-abuse-among-children-adolescents-in-brief/prevention-principles

Public Policy Research Institute. (2014). *Texas School Survey of Drug and Alcohol Use: 2014* (Survey). Texas A&M University, Bryan, TX. Retrieved from http://www.texasschoolsurvey.org/Documents/Reports/State/14State712.pdf

Public Policy Research Institute. (2016). *Texas School Survey of Drug and Alcohol Use: 2016* (Texas School Survey). Texas A&M University, Bryan, TX.

Renes, S. L., Ringwalt, C., Clark, H. K., & Hanley, S. (2007). Great Minds Don't Always Think Alike: The Challenges of Conducting Substance Abuse Prevention Research in Public Schools. *Journal of Drug Education*, *37*(2), 97–105. https://doi.org/10.2190/T467-T0K6-8140-8635

Research. (n.d.). Retrieved April 27, 2017, from https://www.pbis.org/research

Ringwalt, C., Hanley, S., Vincus, A. A., Ennett, S. T., Rohrbach, L. A., & Bowling, J. M. (2008). The Prevalence of Effective Substance Use Prevention Curricula in the Nation's High Schools. *The Journal of Primary Prevention*, *29*(6), 479–488. https://doi.org/10.1007/s10935-008-0158-4

Rohrbach, L. A., Graham, J. W., & Hansen, W. B. (1993). Diffusion of a School-Based Substance Abuse Prevention Program: Predictors of Program Implementation. *Preventive Medicine*, *22*(2), 237–260. https://doi.org/10.1006/pmed.1993.1020

Roorda, D. L., Koomen, H. M. Y., Spilt, J. L., & Oort, F. J. (2011). The Influence of Affective Teacher–Student Relationships on Students' School Engagement and Achievement: A Meta-Analytic Approach. *Review of Educational Research*, *81*(4), 493–529. https://doi.org/10.3102/0034654311421793

SAMHSA - Fiscal Year 2015 Discretionary Funds. (2015). [Text]. Retrieved November 26, 2016, from http://www.samhsa.gov/grants-awards-by-state/details/Texas

School. (n.d.). Retrieved April 2, 2017, from https://www.pbis.org/school

Sloboda, Z., Cottler, L. B., Hawkins, J. D., & Pentz, M. A. (2009). Reflections on 40 Years of Drug Abuse Prevention Research. *Journal of Drug Issues*, *39*(1), 179–195. https://doi.org/10.1177/002204260903900114

SMHC Brochure. (n.d.). AISD.

Sobeck, J. L., Abbey, A., & Agius, E. (2006). Lessons Learned from Implementing School-Based Substance Abuse Prevention Curriculums. *Children & Schools*, *28*(2), 77–85. https://doi.org/10.1093/cs/28.2.77

Spoth, R., Trudeau, L., Redmond, C., & Shin, C. (2014). Replication RCT of early universal prevention effects on young adult substance misuse. *Journal of Consulting and Clinical Psychology*, *82*(6), 949–963. https://doi.org/10.1037/a0036840

StartClass | A Research Engine. (n.d.). Retrieved April 27, 2017, from http://www.startclass.com/

State Spending Addiction | The National Center on Addiction and Substance Abuse. (n.d.). Retrieved April 27, 2017, from https://www.centeronaddiction.org/addiction/state-spending-addiction-risk-use#.WQFLdWTyuRs

Strenghtening Families Program. (n.d.-a). Retrieved April 19, 2017, from https://www.strengtheningfamiliesprogram.org/about.html

Strenghtening Families Program. (n.d.-b). Retrieved April 19, 2017, from https://www.strengtheningfamiliesprogram.org/index.html

Substance Abuse Prevention and Treatment Block Grant. (2014, February 21). [Text]. Retrieved November 30, 2016, from http://www.samhsa.gov/grants/block-grants/sabg

Sun, P., Sussman, S., Dent, C. W., & Rohrbach, L. A. (2008). One-year follow-up evaluation of Project Towards No Drug Abuse (TND-4). *Preventive Medicine*, *47*(4), 438–442. https://doi.org/10.1016/j.ypmed.2008.07.003

Teenage Addiction - Symptoms | The National Center on Addiction and Substance Abuse. (n.d.). Retrieved April 27, 2017, from https://www.centeronaddiction.org/addiction-prevention/teenage-addiction#.WQE6HGTyuRs

Underage Drinking. (2016, September). Retrieved December 4, 2016, from http://pubs.niaaa.nih.gov/publications/UnderageDrinking/UnderageFact.htm

US Department of Health and Human Services: Office of the Surgeon General. (2016). *Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health* (Surgeon General's Report). Washington, DC. Retrieved from https://addiction.surgeongeneral.gov/surgeon-generals-report.pdf

Walker, D. D., Roffman, R. A., Stephens, R. S., Wakana, K., & Berghuis, J. (2006). Motivational enhancement therapy for adolescent marijuana users: A preliminary randomized controlled trial. *Journal of Consulting and Clinical Psychology*, *74*(3), 628–632. https://doi.org/10.1037/0022-006X.74.3.628

Werch, C. (Chad), Moore, M. J., DiClemente, C. C., Bledsoe, R., & Jobli, E. (2005). A Multihealth Behavior Intervention Integrating Physical Activity and Substance Use Prevention for Adolescents. *Prevention Science*, *6*(3), 213. https://doi.org/10.1007/s11121-005-0012-3

White, L. S. (2012). Conducting School-based Research: Lessons Learned From an After-school Intervention Study. *Journal of Pediatric Health Care*, *26*(1), 75–79. https://doi.org/10.1016/j.pedhc.2011.05.001

Williams, A. F., DiCicco, L. M., & Unterberger, H. (1968). Philosophy and evaluation of an alcohol education program. *Quarterly Journal of Studies on Alcohol*, *29*(3), 685.

Wills, T. A., Sandy, J. M., Yaeger, A. M., Cleary, S. D., & Shinar, O. (2001). Coping dimensions, life stress, and adolescent substance use: A latent growth analysis. *Journal of Abnormal Psychology*, *110*(2), 309–323. https://doi.org/10.1037/0021-843X.110.2.309

BIOGRAPHY

Christina Nania was born and raised in Houston, Texas. She enrolled in the University of Texas at Austin and the Plan II Honors program in the Fall of 2013. During her time at the university, Christina majored in Plan II and Psychology, as well as participated in study abroad programs to Scotland and Austria. She became involved in university organizations as an officer in the Plan II Pre-Medical Society and as vice president of Longhorn Lights Out. She also was heavily involved in research both in the Department of Psychology and the Waggoner Center for Alcohol and Addiction Research. Her interest in public health began when she joined the Plan II Public Health Program in the Spring of 2016. She will continue pursuing this field by attending the University of Texas School of Public Health in Houston after graduation. She hopes this is the beginning of a long but exciting journey to becoming a physician.